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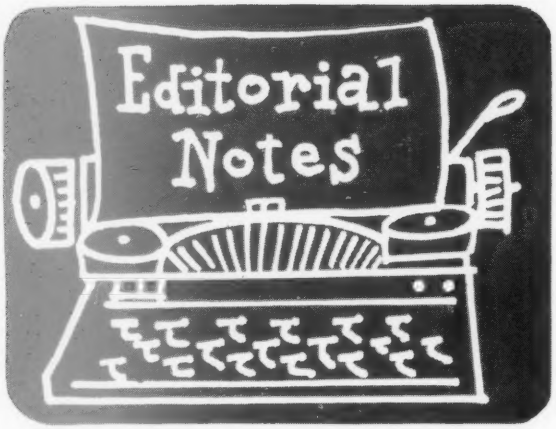

Vernon M. Root

In this column I want to discuss professional responsibility as it affects each member of the technical communications profession.

First, let us consider what "professional responsibility" means. To me, it can be encompassed in five key words: competence, currency, effectiveness, dedication, and independence.

1. You must be competent to do the jobs you are assigned; you must have the job knowledge required in terms of both technical insight and communications skills, and you must have the patience and tenacity required to do the job accurately, thoroughly, and completely.

2. You must keep your knowledge current. The professional must have as part of his vocation avid journal reading and other activities which keep him up to date both in the realms of technology and in the realms of communications techniques with which he works.

3. You must apply yourself effectively. Even current job knowledge is wasted in the mind of one who fails to give the job his best efforts. Compromises between perfection and production are always necessary, but compromises between "the best time will permit" and "what will just get by" are never justifiable.

4. You must be dedicated enough to know that your job takes priority over your personal desires. The true professional knows that "the show must go on"; when deadlines must be met, he works to meet them. He expects, and is expected, to do the job, not just put in so many hours. To the professional, his pride in a job well done more than compensates for his "uncompensated" overtime.

5. You must be competent, current, effective, and dedicated of your own independent volition. If you always have to be pushed into these states by someone else, you are not really in the states at all, you are merely being urged toward them. The professional understands his responsibilities and freely takes them upon himself. There is no way by which professionalism can be imposed upon a man: either he sees, understands, and accepts it freely or he eschews it. Independent acceptance of individual responsibility is the ultimate hallmark of the professional.

To whom do we owe professional responsibility? Clearly, our professional responsibility appears to be directed first and foremost toward our employer. To him we must deliver the professional performance he has every right to expect from us. Indeed here is, in a very real sense, the *only* place we can deliver professional performance directly. Thus here is certainly a primary objective of our professional responsibility — some, I'm sure would say the employer is its only object.

I believe, however, that there are at least four other objects of professional responsibility: the profession, society at large, your professional society, and yourself.

Every profession grows out of subprofessional activities through the concerted, and the solitary, efforts of individuals who rise above their peers and adopt the qualities of the professional. Technical communications is still in this emergent stage, although enough of its practitioners have adopted professional standards so that we may properly call the occupation a profession. Since a profession is evolutionary in its nature, every individual who freely accepts the responsibilities entailed by adoption of professional qualities further enhances the profession itself and provides a broader basis for its recognition by others.

Inherent in the concept of a professional activity is the idea that it is in some way beneficial to human society. A profession must command respect, and it can do this only if it forms a beneficial part of the social structure. Technical communications clearly meets this test of a profession: it forms an integral and necessary part of the rapidly growing structure of science and technology. Thus as each individual makes his professional contribution to his job, he also serves the higher purposes of human society.

The professional society exists primarily to help the professional improve his lot. A professional society provides forums at which he can exchange information, journals in which he can express his ideas, and services through which he can maintain the currency of his job knowledge. As a member of a professional society, he has a responsibility to participate in the forums, to express his thoughts and researches in the journals, and to make use of the Society's services. In addition, he has an added responsibility, as a member of the Society, to perform his job in an outstanding manner so that his reputation will enhance the prestige of the Society and thus redound to the greater benefit of the profession.

But ultimately, one has a professional responsibility to himself. In one sense, all the other aspects of professional responsibility turn back upon the self. The more highly you are regarded by your employer, the

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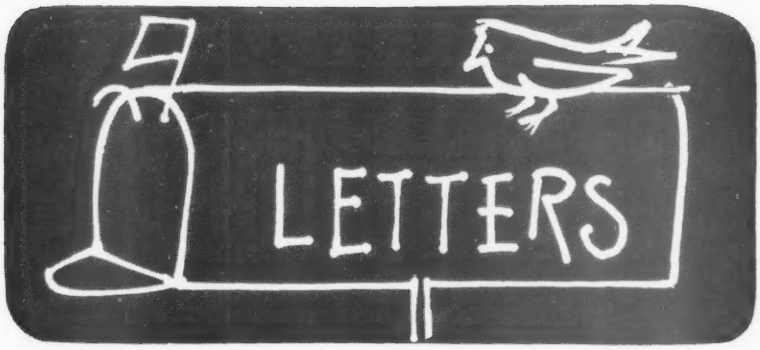


THE TECHNICAL WRITER AS PUBLICIST

To Editor, *STWP Review*:

No two temperaments are commonly thought to be wider apart than the careful, logical, matter-of-fact mind of the technical man and the imaginative, creative outlook of the publicist or sales promotion man. The technical writer must be accurate, must take all the facts into consideration, and must avoid any suspicion of selecting only the convenient information. The publicist, on the other hand, must make the best possible case for his company or product and must, without misinterpreting the information, concentrate on the unique features that distinguish his interest.

However, the special qualities of the technical writer are important ingredients in the ever-growing field of industrial publicity. At the core of the industrial publicity program is a planned series of *technical* articles. These articles are promotional; they are designed to sell. But they must have the same accuracy, the same appeal to reason that characterizes a good nonpromotional informative technical or semitechnical article.

Each story is a detailed account of how a company, service, or product is doing a specific job in a specific situation. The purpose of the story may be to sell the product or to develop a reputation as an expert for the company as a whole or for individual members of the technical or sales staff. Written for a particular audience and appearing in its favorite trade paper, the industrial technical publicity article delivers its message where it does the most good. Because of his training, outlook, and work habits, the technically trained publicist contributes to both the editorial content and efficient production of industrial-technical publicity designed to sell.

Although intelligent English majors and journalists can and do handle technical material, much more time is required for training. Writers with technical training are able to acquire the "feel" for the special problems of the industry much more rapidly. This means that long training periods are eliminated. Almost from the start, the technical writer is a productive member of the publicity team.

Ideally, the publicist should have professional knowledge of his clients' products and processes and their applications. But someone with a strong undergraduate training in the physical sciences and some work in the life sciences has the necessary foundation for handling a variety of assignments.

Engineers are particularly well suited because of their strong interest in the application of scientific principles to industry; they are also well trained in all of the basic physical sciences. A year or two of actual experience — on a drawing board, in a laboratory, in a pilot plant, or in production — is highly desirable. This experience not only provides useful information, but it also, and this is most important, "sensitizes" the outlook to industrial and technical problems and attitudes. Any technically trained person entering the writing field will, naturally, have some training and will be interested in producing well written articles.

Useable information may come in many different forms. The heart of an article may be in laboratory reports, engineering drawings, specifications, and similar materials. Unlike ordinary writers, technical publicity men do not shrink from working with and interpreting highly technical data to get a story.

No matter what technique is required to gather the facts, a technical orientation is a time saver. In personal interviews and on plant tours, technical people ask the right questions; they are able to get the maximum meaning from short answers. Working engineers and other technical men feel they are talking to someone who understands and is interested in their work.

All stories must, of course, be checked for accuracy. This checking and revision is simplified and expedited if the writer is capable of quickly grasping and evaluating the corrections and additional information.

(Continued on Page 38)

A NOTE TO CONTRIBUTORS

Contributions to the *Review* are always welcome: short articles of 500 to 1000 words are most easily fitted into our small magazine.

Send the original on heavy white bond paper, typewritten, double or triple spaced, plus two carbons. Leave at least a 1-inch margin on all sides, number the pages consecutively, and be sure that all illustrations are keyed to the text.

Articles should not exceed 2500 words plus three illustrations.

We assume that every article is approved by your company before it is submitted. The authors' names and affiliations should be on the manuscript. A short biographical note is most helpful. This note should include the present title of the author, the full name of his organization, and complete information about books, other articles, or any other publication credits. Please address all contributions to the Editor; the Review Committee will read your article and our publication plans will depend on their collective judgment.

The *Review* has no objections if articles appearing in its are reprinted for noncommercial use but, as a matter of courtesy, the author's permission should also be requested. If an article is going to be quoted or abstracted, as in a book, the *Review* feels that this is a matter for the author. Under the doctrine of fair use one can quote small sections of a publication with proper credit. But any abstracting or reviewing or substantial reuse of an article requires the author's permission. The *STWP Review* is copyrighted but the rights to any further use of an author's material revert to him upon request.

ADVERTISING INFORMATION

Advertising rate sheets are available on request. Deadlines for the receipt of advertising copy are November 20, February 20, May 20, and August 20.

REPRINTS

Reprints are available, in quantities of 100 or more, from the John S. Swift Company, 2524 Spring Grove Avenue, Cincinnati 14.

Writing and Editing Position Standards

Set by Civil Service Commission

For the first time in its history, the U.S. Civil Service Commission has issued a formal position classification for *technical* writers and editors. The product of several years of effort by the Commission, various government agencies, and STWP, this standard sets forth the precise classification criteria and complete functional descriptions for technical writing and editing positions.

The document is the official standard for differentiating among the many technical writing and editing positions of the Commission. But it has far broader significance than that: private organizations not governed by Civil Service regulations may well profit from a study of this detailed and carefully formulated presentation. While not every technical writing or editing group will find it suitable to organize its position classifications in this manner, they still can gain insight by comparing the Commission system with that used by their organization.

According to C. Mansel Keene, Chief of the Standards Division of the Civil Service Commission, the standard was based on an extensive occupational study that was conducted by the Commission. He points out that members of the Washington Chapter of STWP "made substantial contributions to the factual information and to the ideas and concepts expressed in the standard."

Commenting on the growth and future of the technical writing and editing profession, Mr. Keene states: "We recognize that, like many other relatively new fields of work, technical writing and editing is an evolving occupation. However, we believe that, through the cooperation and assistance of subject-matter specialists, we have succeeded in reflecting the present status of the occupation and, at the same time, have developed standards that will take into account the trend of its future development.

"While it is the first published standard for technical writing and editing that the Civil Service Commission has issued, it is not preliminary in nature; it is the official guide for the classification of these positions in the Federal service."

The complete series, which is known by the Commission as GS-1083-0, is printed below.

TECHNICAL WRITING AND EDITING SERIES

This series includes the performance or supervision of writing and/or editing work which requires the application of (1) substantial subject-matter knowledges, and (2) writing and editing skills, including the ability to determine the type of presentation best suited to the audience being addressed. Positions which require full professional or technical subject-matter knowledge and in addition, writing or editing skills, are excluded from this series.

INCLUSIONS

Included in this series are editor and/or writer positions which require a substantial knowledge of the subject-matter field, but less than the knowledge characteristic of fully-trained and qualified workers in the subject-matter field) and equally important, writing and editing skills. In recruiting for these positions neither type of qualification predominates. Technical editors and/or writers come from among those whose work experience or education has been in an appropriate subject-matter field or fields and who also have had some writing or editing experience. There are also some technical writers or editors among those whose work experience or education has been in the fields of writing, journalism, or English, and who have had, *in addition*, work experience (e.g., as nonprofessional support level or as a vocational instructor of a pertinent subject), technical school training, or college courses in an appropriate subject-matter field or in a combination of subject-matter fields. For positions in this series, the combination of both kinds of qualifications is always required and neither is the sole recruitment factor.

EXCLUSIONS

Excluded from this series are the following types of positions which may also be involved in the writing or editing of technical material:

A. Positions of writers or editors who are dealing with technical material, but who are not required to have substantial subject-matter knowledge in the fields of work involved. Such writers and editors acquire a knowledge *about* the subject-matter field; this knowledge is gained through editing reports, articles, etc., from collateral reading and study, and through association with subject-matter specialists. In positions of this type the principal recruitment factor is training or experience in the fields of journalism or writing. In such positions knowl-

edge *about* the broad field is preferable to intensive knowledge of a limited aspect of the field. These writers and editors must have a facility for acquiring, through interviews and reading, the subject-matter information which they need for the writing or editing project. Positions of this type *are not classifiable to the Technical Writing and Editing Series.*

B. Positions in which the predominant requirement is practical experience with equipment, devices, or mechanisms, not professional theoretical subject-matter knowledge. While some writing skill may be required in some of these positions, this skill is subordinate to the technical skills and knowledges acquired through practical experience with the equipment, devices, or mechanisms involved. These positions are to be classified to an appropriate nonprofessional series such as the Electronic Technician Series, GS-856-0, the Equipment Specialist Series, GS-1670-0, or other appropriate series.

C. Editor and/or writer positions which require full subject-matter competence in the professional and technical field. While editors or writers in such positions must have the ability to use the English language with skill, their subject-matter knowledge is paramount. They are recruited from among specialists in the subject-matter field who have writing or editing ability. Writing and editing positions that require such subject-matter knowledges are classified to the appropriate subject-matter series.

OCCUPATIONAL INFORMATION

Technical writing and editing as a separate occupation is a product of the rapidly developing and expanding twentieth century technology. The occupation has grown out of the need for rapid and precise communication of technological developments to those readers who are trained in the same or related subject-matter fields or who have need for the information. The technical writer or editor applies the art of communication, and combines it with a knowledge of the subject-matter field. He serves as part of the communication process required in translating the processes and results of the specialized thinking or findings of the natural sciences, social sciences, engineering, and law into the language of the various levels of the technically informed reader and in some cases, the lay public. Technical writers and editors thus apply knowledge and skill in verbal presentation to dissemination of information about technical subject matter. In order to do this, technical writers and editors must have a substantial knowledge of the subject matter involved, although not the same degree of knowledge as is required by the fully trained worker in the field.

Technical Publications Writers and Editors

Technical publications writers and editors are usually found in those Government activities which carry on a program of research, investigation or operation in the fields of natural and social sciences, engineering, medicine, law, and the like. Such activities include as a necessary part of their research program the dissemination of their findings or decisions to the scientific, administrative, and lay public. Technical information is disseminated by the publication of scientific or legal papers and reports in professional journals, agency publications, trade journals, or in magazines of general interest. Technical articles and reports may be aimed toward a scientific or legal audience, toward an administrative and program-planning audience, toward workers in the field whose main interest is in application rather than theory, toward an informed lay public, or toward the public at large.

Technical publications writers prepare original papers, articles, or reports covering technical or professional subject matter based upon interviews with workers in the field, upon notes and background files of research workers, and upon independent reading. Information is sometimes also obtained through watching experiments, tests, etc. To carry out assignments of this sort the writer must have substantial subject-matter knowledge.

Technical publications editors prepare manuscripts for publication by assuring that the report, article, etc., says what it is designed to say, that there is a logical arrangement of parts, that the level of concepts, expression, and vocabulary are appropriate for the audience to which the written material is directed, that the conclusions drawn are valid and supportable by reference to the facts adduced, and that statements made or opinions expressed are in accord with agency policy. Since research workers are often not skilled in verbal expression and communication, it may be necessary for the editor to review the work for grammar, sentence structure, and style. In some cases the editor may work with the original author in completely revising the method of presentation.

Other types of editorial jobs in this category include assignments as technical publications editors for the reports of a group or a committee. Such editors have responsibility for pulling together the various individual reports into a unified report which adequately reflects the total viewpoint of the group.

Other technical publications editors have responsibility for recognizing information needs of audiences and for planning appropriate technical information programs.

Many agencies also combine technical publications writing assignments with technical publications editing assignments in the same position.

Some technical publications writers and editors prepare abstracts, summaries, or digests of technical publications, reports, or similar material. When the preparation of these summaries requires substantial subject-matter knowledge, in addition to the ability to write abstracts, summaries, or digests, the positions are included in this series.

The work situations in which the technical publications writer or editor carries out his assignments vary considerably. His relationship to the original research worker or operating subject-matter specialist may be through written manuscripts only, or it may be direct and personal; for example:

1. A research worker may have completed a series of experiments which has produced results that are considered worthy of publication. He writes an original draft of his professional report which describes in his own language and from his own point of view what he has done and what the implications and results of his findings are expected to be. A draft such as this will probably mention and describe the equipment used in the course of the experiments. Before the report is ready for publication by the activity for which the research employee works or by a professional journal, the manuscript is edited by a technical publications editor.

The technical publications editor applies to the editorial process his knowledge and understanding of the subject matter, his skill in the presentation of ideas by words, pictures, tables, graphs, and other illustrative material, and his knowledge of the expected audience for the report. He makes sure that the report conveys the information that the research worker intends to convey so as to minimize ambiguities or areas of misunderstanding. He determines that words with meanings peculiar to the research worker's branch of knowledge are meaningful to an audience with a different professional background. He makes certain that descriptions of equipment are sufficiently developed for readers who will want to know about that aspect of the work. He assures that the organization and development of the report is logical and meaningful to those with less subject-matter knowledge than the author. In consultation with the research worker, the technical publications editor makes the necessary changes in presentation in order to achieve these objectives. This editorial activity represents an essential contribution to the communication of the research worker's findings.

2. A team of research workers has completed and published a number of papers that report piecemeal the results of their work.

A technical publications editor may undertake the assignment of combining these individual papers into a single publication. Editorial review in this case involves determining the relationship of each single paper to the whole, consulting with the research team in reassessing the relative importance of each of the aspects covered to the subject-matter field and to the team research project. The technical publications editor assures that questions raised in one paper with the expectation of future answers in subsequent reports are in fact answered. He must find out from subject-matter specialists the extent to which subsequent work has validated or changed the conclusions expressed in the earlier papers; he makes sure that the total report is presented in a uniform style.

3. A common situation which calls for a technical publications writer is the communication of technical, scientific, or legal information to an audience which is not professionally trained in the specific subject matter. In this case the technical publications writer starts out with his source material which very often is a publication in the professional or scientific journal, or an internal report of the activity. He considers the information contained in this material from the point of view of the particular audience (whether it is informed on the subject matter, whether it is a special-interest group, whether it is representative of the public) to determine areas of particular interest to the audience, how much elucidation is required, how to present the information in a popular, understandable fashion, what illustrative and pictorial material to use and at the same time avoid sensationalism, superficial treatment, incorrect or unwarranted conclusions, and the like.

In all of these examples, (and there are many other types of technical writing and editing projects besides those described above) the technical publications writer or editor acquires his information about the subject matter from a specialist in that field, from written sources, and through personal contacts. In order to understand and use this information he himself must have a substantial subject-matter knowledge.

Technical Manuals and Specifications Writers and Editors

In addition to technical publications writers and editors, this series also includes technical manuals and specifications writers and editors. These positions are found in Federal activities which carry on a program of applied scientific research and development for the purpose of developing better weapons, communications, and other types of systems, equipment and devices. These activities also write and distribute basic instruction materials on the new or modified systems, devices, or equipment. These materials are usually in the form of technical manuals and specifications.

Technical manuals and specifications are of many kinds and types. Some deal with the maintenance and operation of equipment. Others discuss the operational, tactical, and strategic characteristics of weapons, communications, and other types of systems. Some present design and development characteristics.

Manuals and specifications are put to a variety of uses. Technical manuals tell the field technician how to operate a new or modified piece of equipment or device, how to service it efficiently and safely, how to assemble it under field conditions, and how to track down and locate the causes of trouble spots. Field instructors use some manuals as textbooks. Other manuals tell the instructor how a training device can be used to simulate battle conditions, test proficiency of trainees, or sharpen individual or team technical skills. Policy-level administrators, field commanders and naval officers use manuals dealing with operational, tactical, or strategic characteristics of weapons or communications systems in evaluating alternative courses of action.

Specifications form the basis for procurement actions, and for assuring an objective basis for measuring the quality of equipment, devices, and systems during the course of production.

Since both technical publications positions and technical manuals and specifications positions require substantial subject-matter knowledge *and* writing or editing ability, they are included in the same series. However, the subject-matter knowledge is somewhat different in nature, and is obtained through different kinds of experience or training. For this reason, these two types of positions are treated separately in terms of titles, authorized specializations, and necessary qualifications.

Technical manuals and specifications writers or editors are required to have essentially the same kinds of subject-matter knowledge about equipment, devices, or systems as technicians who are working directly with the same or similar kinds of equipment. In many cases however, their subject-matter knowledge is considerably less detailed and complete than the subject-matter knowledge required of the technicians, whose positions are classifiable to such series as the Equipment Specialist Series GS-1670-0, the Electronic Technician Series GS-856-0, or other similar series.

In addition to subject-matter knowledge, technical manuals and specifications writers or editors also must have as an essential requirement writing and editing skills and knowledges which are beyond these characteristically required of technicians.

Authorized titles and specializations for technical manuals and specifications writers are described below.

Grade levels for technical manuals and specifications writers are not described in this standard. Such positions are evaluated on the basis of the difficulty of the subject-matter knowledge required and the writing and editing skills required.

The difficulty of the subject-matter knowledge required is evaluated by reference to published classification standards for appropriate nonprofessional classification series such as the Equipment Specialist Series, GS-1670-0 and the Electronic Technician Series, GS-856-0. In using such classification standards as guides, consideration must be given to differences both in intensity and extensiveness between the subject-matter knowledge required by a technical manuals or specifications writer and the subject-matter knowledge required by an equipment specialist or electronic technician working with similar equipment.

The writing and editing skills required, as well as originality and judgment are evaluated in accordance with the grade-level discussion in this standard for Technical Publications Writer and Editor positions, as presented below.

OFFICIAL TITLES AND SPECIALIZATIONS

If the paramount duties of a position involve writing abilities (as distinguished from re-write duties, as done by editors) the term "Writer" should be used in the title. Within the framework of this standard, duties such as monitoring of publications contracts and critical evaluation of a written product produced by someone else, etc. are editing functions. If editing duties predominate, the term "Editor" should be used in the title. If the two functions are of equal importance, the term "Writer-Editor" should be used.

Table 1 summarizes the more common types of positions and the appropriate official titles for them. Parenthetical additions designating specializations are authorized to be added to these official titles in accordance with the sub-section titled *Subject-Matter Specializations.*

Subject-matter Specializations. Subject-matter fields for technical publications writers and editors are extremely diverse and include most of the fields of social and natural science, engineering, and law. Positions may cover such broad areas of work as medical science, physical science, engineering, etc., or more specialized areas, such as chemistry, physics, international law, electronics, etc. However, the subject-matter knowledge required for positions of technical publications writers and editors is broad rather than specific.

The following specializations are authorized for technical publications positions and are to be used as parenthetical additions to the official title as listed above:

Engineering	Biological Science	Legal
Physical Science	Medical Science	

Where the nature of the substantial subject-matter knowledge required is in a narrower area of knowledge, specializations authorized for use are those for which the Civil Service Commission has established classification series; the title of the classification series becomes the title of the parenthetical addition to the authorized title as listed in the section entitled *Type of Positions and Official Titles.*

TABLE 1 — SUMMARY OF POSITIONS

Common Types of Positions	Official Titles
(1) Editor of individual or group prepared technical reports and papers, legal decisions and opinions, and other types of publications.	Technical Publications Editor
(2) Writer of technical reports and papers and other types of publications based upon reading of background materials, observation of tests and experiments, and interviews with subject-matter specialists.	Technical Publications Writer
(3) Writer and/or editor of technical articles for publication.	Technical Publications Writer Technical Publications Editor
(4) Editor of a technical publication with responsibility for its management.	Technical Publications Editor
(5) Editor who plans and advises on agency technical information programs.	Technical Publications Editor
(6) Writer of any one or more types of technical manuals based upon information gathered from interviewing workers in the field; from interviewing specialists; from independent reading; from interpretation of blueprints, diagrams, charts, engineering reports, and specifications; and from working with the equipment, device or system.	Technical Manuals Writer
(7) Editor of a series of technical manual issuances who directly supervises manual writers or who oversees the writing of manuals prepared either by a private contractor or by other Government agencies.	Technical Manuals Editor
(8) Writer and/or editor of one or more types of specifications which are based upon information gathered from interviewing specialists; from independent reading; from interpretation of blueprints, diagrams, charts, engineering reports and specifications; and from working with the equipment, device or systems.	Specifications Writer Specifications Editor

Subject-matter specializations for technical manuals and specifications positions are based upon practical knowledge of particular kinds of specialized equipment, devices, or systems. This knowledge is essentially similar to that required for positions in the Equipment Specialist Series, GS-1670-0 and the Electronic Technician Series, GS-856-0. Therefore, the specializations established for the standards for these series are also applicable to technical manuals and specifications positions.

Authorized specializations are to be used as parenthetical additions to the official titles given in Table 1.

Approved specializations for technical manuals and specifications positions are those authorized in

(1) the Equipment Specialist Series, GS-1670-0 in the section entitled *Specializations* beginning on page 4 of the published classification standard dated December 1958 (and any other specializations that may be authorized by the Civil Service Commission for the GS-1670-0 series). Additional specializations established by *agencies* for the GS-1670-0 series are not authorized for use in the GS-1083-0 series.

(2) the Electronic Technician Series, GS-856-0 in the section entitled *Subject-Matter Specializations* beginning on page 16 of the published classification standard dated December 1958 (and any other specializations that may be authorized by the Civil Service Commission for the GS-856-0 series).

The functional specializations in the standard for the GS-856-0 series are not authorized for use in the GS-1083-0 Series.

Technical Publications Writers and Editors

CLASSIFICATION CRITERIA

The criteria used in the evaluation of technical publications writer and editor positions are difficulty of the writing or editing project; the extent of originality and initiative required; and the degree of judgment involved.

Difficulty of Writing or Editing Project. The difficulty of the writing or editing project is measured in terms of the following considerations:

1. Whether the publication, report or research paper requires simple expository writing or whether it requires analytical presentation. Analytical presentation (which requires the writer or editor to present material pointing up new relationships, highlighting trends previously lost in detailed presentation or embodying conclusions drawn from the facts discovered) is more difficult than simple exposition.

2. Whether the subject matter of the publication covers a simple or complex field and whether it is in a well-established area or approaches the most advanced areas of knowledge or research in that subject-matter area.

3. Whether the writer or editor is required to have subject-matter knowledge of other work being done in the same or related fields in order to fulfill the requirements of his specific assignment.

4. Whether the material to be published differs from generally accepted theories or practices in the subject matter field covered. This consideration is significant only if the writer or editor is required to present the differing findings so as to convince his audience of their validity, value, and significance.

Originality and Initiative Required. This criterion includes two related facets of the jobs of technical publications writers or editors: the independence with which he works (e.g., the extent of freedom from written guidelines and technical supervision), and the amount of creativity required.

At the lower levels, assignments are specific and detailed instructions cover scope and content. There is limited opportunity for creativity. The writing or editing is in terms of the framework of the specific assignment. At the higher levels, however, the technical publications writer or editor has a per-

sonal impact on his assignment. Based on his knowledge of new developments or findings in a field, and on his knowledge of the technical information needs of the audience, he is expected to supply ideas for writing assignments and for the content of technical information programs.

Judgment Required. In this standard judgment covers the exercise of discretion and tact in personal contacts with subject-matter specialists. The criterion also covers the quality of discernment in assessing the needs of the technical publications audience, and the reactions of the audiences to the technical information program.

Qualifications Required. Qualifications required are reflected in the other three factors discussed above and are therefore not discussed separately.

GRADE LEVEL GUIDES

Technical publications writing and editing positions are to be evaluated on the basis of the following grade-level guides. Typical examples of each of the criteria are described at each grade level. Criteria which specifically involve writing are discussed on the left side of the page. Criteria which involve editing only are discussed on the right side of the column. Criteria common to both run across the width of the column.

Technical Publications Writer and/or Editor (Specialization) GS-5

At this level a technical publications writer or editor receives assignments to develop him for work at higher grade levels. Incumbent is taught the techniques of writing and editing, including the use of pictures, illustrations, graphs, and tables to enhance the presentation. He is expected to become familiar with available source materials and agency publication policies.

Technical Publications Writer and/or Editor (Specialization) GS-7

While the GS-5 level is the trainee level, GS-7 is the first operating level.

Difficulty of Writing or Editing Project. At the GS-7 level, a single process, experiment, development, test procedure, or legal decision or opinion is involved. The technical publications writer or editor is not required to have subject-matter knowledge of related writing or editing projects.

Usually at this level the objective of a project is to report information, or to describe a procedure. When a project involves highlighting trends, pointing up relationships, or explaining the significance of what is being reported the GS-7 technical publications writer or editor works under the continuing guidance of a more experienced writer or editor.

Originality and initiative. Scope for originality and initiative is limited. GS-7 technical publications writers and editors receive repetitive types of assignments which are covered by standard guides or clear agency precedents. If new types of problems are involved, the supervisor indicates the method of approach, sources of information, and the form of presentation. The supervisor sets priorities and keeps incumbent informed of latest requirements and developments. Work is checked during progress and upon completion.

Writer is given assignment of writing an article or a portion of a report or other publication. Source materials are readily available. Contacts are made with subject-matter specialists in the various parts of the agency for the purpose of gathering additional information. Writers outlines proposed report or article. The supervisor reviews the outline with the writer before the writer proceeds with the assignment.

Editor is assigned reports or publications which do not involve extensive editing. Editor has direct contact with authors, but usually takes up points needing change with authors after he discusses the nature of proposed changes with his supervisor.

Judgment. Subject to close supervisory guidance, the GS-7 technical publications writer or editor exercises judgment (1) in determining which details are to be used in the writing or editing project and which are relatively unimportant and may be omitted, (2) in evaluating the adequacy of source materials, and (3) in estimating the amount of information needed by the audience.

Technical Publications Writer and/or Editor (Specialization) GS-9

The essential difference between positions at this level and those characteristic of GS-7 is that at the GS-9 grade level the subject-matter knowledge required to carry out the writing or editing project is in a broader field of knowledge and the technical publications writer or editor works with a greater degree of independence.

Difficulty of Writing or Editing Project. In addition to the subject matter knowledge directly involved in the writing and editing project to which he is assigned, a GS-9 technical publications writer or editor must also have a knowledge and awareness of other publications (already published, or in the process of publication) insofar as they will affect the presentation aspects of his assigned project.

At this level the objective of most of the projects is to report technical information or to describe a technical procedure or process. A GS-9 technical publications writer or editor carries out this type of assignment independently.

Where the project involves highlighting trends, pointing up relationships or explaining the significance of what is being reported on, a GS-9 technical publications writer or editor works closely with subject-matter specialists in developing and expressing these ideas. A GS-9 incumbent receives continuing guidance and assistance from his supervisors in the methods and techniques of presentation required by this more difficult type of writing or editing project.

Originality and Initiative. As at the GS-7 level, incumbent receives specific assignments; source materials are generally readily available. Originality and initiative at this level differ from the GS-7 level in that incumbent performs most types of assignments independently. When assignments involve a problem or situation not faced before, incumbent works out approach with his supervisor.

A GS-9 writer differs from a GS-7 writer in the independence with which the GS-9 gathers information and selects what is pertinent to his writing assignment, and in the independence with which he completes the writing assignment, calling on the supervisor only when unusual problems of fact-gathering and interpretation or presentation occur.

A GS-9 editor differs from a GS-7 editor in that the GS-9 independently edits all usual types of articles, reports, legal decisions and opinions, and other publications within his particular area of subject-matter specialization. Editorial changes which do not involve a complete reorganization of the paper or a major change of emphasis are handled on the editor's own initiative with the agreement and approval of the author. If, however, the change is a major one, then the editor discusses the proposed change with his supervisor before discussing it with the author.

As at the GS-7 level, problems are largely those of discrimination and selection. But because a GS-9 incumbent operates without close supervision, errors in judgment could have a direct effect on the relationship between the editor and the author, or between the writer and the various subject-matter specialists. These relationships must remain harmonious in order for the writer or editor to operate effectively.

At this level, the technical publications writer or editor gauges the information needs and interests of the audience to whom the material is to be directed. He is responsible for judging whether the material is suitable to that audience and is presented in such terms as to receive a favorable reception. The GS-9 technical publications writer or editor is expected to be alert to wording in the presentation which might create an audience reaction that is not intended.

Technical Publications Writer and/or Editor (Specialization) GS-11

A GS-11 incumbent is usually assigned responsibility for the writing or editing of publications covering a specific subject-matter area or the work of an organizational segment of an activity. In carrying out this assignment he writes or edits the publications reporting the work being done and also works with his superiors and the subject-matter specialists in planning what additional subjects are to be included in the technical information program for the assigned area.

Difficulty of Writing or Editing Project. The subject of the writing or editing project often requires a knowledge and understanding of abstract ideas and theoretical concepts in the subject-matter field. The technical publications writer or editor must be familiar with the subject matter involved and must be aware of the relationship of his writing or editing project to the total technical information program.

The publication presents adaptations or departures from accepted thought or theory. In presenting these conclusions, it is necessary for the GS-11 technical publications writer or editor to make sure that each step of the process by which these conclusions were reached is presented clearly so as to convince the reader of the soundness of the conclusions and the manner in which they were derived.

Originality and Initiative. The GS-11 incumbent usually operates independently and plans the scope and content of the specific project assigned. Specific instructions are not received unless unusual or critical phases of work are involved. In addition to receiving specific assignments as at the GS-9 level, the GS-11 incumbent typically suggests to his supervisor ideas for possible articles or publications. He is responsible for keeping abreast of developments in an assigned field or fields and for considering them in relation to the technical information needs of the technical audience or audiences serviced. The technical publications writer or editor keeps abreast of the pertinent professional journals, magazines and trade publications in the field and the nature of articles accepted by such publications.

Frequently, the sources of information have not been widely disseminated. He must use his knowledge of what is being done in the subject-matter area and who is doing it in order to find out what written sources are available or whom he should interview in order to get the information he needs.

A GS-11 writer may have responsibility for writing reports about research or development work based on such material as notes of research workers, interviews with research workers, background files, etc.

A GS-11 writer may be assigned survey articles or he may suggest appropriate subject matter for articles or reports. Writing survey articles or reports at this level involves the surveying, interpretation and analysis of a number of specific developments, legislative actions, or court decisions in a specific field or in closely related fields in order to trace a significant trend or thread of development.

A GS-11 editor contacts authors and tries to get them to accept changes to correct such deficiencies, as lack of organization, incomplete presentation, and inconsistent statements and conclusions not based upon facts presented; these changes may require major revisions in the manuscript. Based on his knowledge of research being carried on at the activity and elsewhere, the editor may question the completeness or adequacy of the presentation of conclusions, etc.

An editor at this level frequently works with authors as a consultant to them on presentation of their material. He helps the authors organize their data, and makes suggestions as to methods of presentation. He may develop writing guides for use by authors in the agency or course materials for use in teaching inexperienced authors good principles of writing and organization.

Judgment. As at the GS-9 level, the GS-11 technical publications writer or editor uses judgment in evaluating both the needs of the audience and the objectives of the communicator in relation to the writing or editing project. Greater judgment is required than at the GS-9 level, however, in the evaluation of information that is being presented, because the sources of information often involve differing findings or viewpoints which the GS-11 writer or editor must help to resolve or highlight, in consultation with subject-matter specialists. Personal contacts generally cover about the same range of associations as at the GS-9 level, but the GS-11 very often makes such contacts not only to gather information but also in an effort to get subject-matter specialists to resolve differences in their viewpoints, or to get an author's or subject-matter specialist's agreement on a major change in proposed publications. Such contacts require the writer or editor to exercise a greater amount of tact and judgment than is usually characteristic of the GS-9 level.

Technical Publications Writer and/or Editor (Specialization) GS-12

This level differs from the GS-11 level in that the projects require knowledge and understanding of the most advanced theories and concepts in the subject-matter field. A GS-12 technical publications writer or editor works with a greater degree of independence than a GS-11 incumbent.

Difficulty of Writing or Editing Project. Characteristically at this level writing or editing projects involve (a) publications which require radically new or different report patterns or (b) publications for which special care must be taken to present serious adverse audience reaction or misunderstanding. Such adverse reaction or misunderstanding might otherwise arise because the publication or report departs from commonly accepted theories, data, or operations.

The nature of the writing or editing project is such as to demand a high level of skill in presenting advanced subject-matter theories and concept which are either being presented to the audience for the first time or are being presented in so radically different a context that care must be taken to assure a complete and cogent presentation of the subject. In many cases understanding and acceptance by the audience of the information being presented is essential to the activity's program.

Originality and Initiative. A GS-12 technical publications writer or editor works independently. He is responsible for defining the scope and content of writing or editing projects assigned, keeping his superiors informed if radically new approaches in presentation are called for.

Judgment. The subject-matter field involved is not only extremely complex but is changing rapidly. As a result there is not much definitive information in writing and many differing points of view are common. For these reasons GS-12 technical publications writers and editors must exercise considerable judgment in developing sources of information, in checking and verifying the information developed, and in synthesizing information. Ω

Constructing Simple Technical Illustrations

Robert L. Dockendorff

Illustration art for publications distributed outside of the local industrial organization deserves the quality of treatment normally provided by professional technical illustrators. However, many publications emanating daily from industrial presses do not require the aesthetic quality achieved by the professional illustrator. Because of limited distribution these would serve their purpose with good, legible illustrations prepared by the authors. This article is intended, therefore, to assist engineers and scientists in supplying art that meets the minimum requirements for reproduction by means of photo-offset printing or by the ditto process.

The decision as to when reproducible art should be done by the engineer must depend upon (1) the significance of the document and its ultimate treatment and distribution, (2) the availability of the engineer to devote time to the effort, (3) the availability of an artist to do the work, and (4) local personnel practices. The decision, therefore, is a joint responsibility of the engineer and the illustrating group.

Preparation of reproducible art by engineers is recommended for technical reports and data folders with generally limited distribution and purpose, articles for publication that include artwork which will be redrawn for publication printing, and monthly letter progress reports.

The recommendations and instructions presented here are being used successfully at the General Electric Company Advanced Electronics Center, Cornell University.

GENERAL INSTRUCTIONS

Consistency is extremely important to a finished document, for clarity and ease of reading. Even a slight inconsistency will disrupt certain types of readers. The standardization necessary for consistency does not require much effort. The first step is the adaptation of standard tools such as these, which are readily accessible to all engineers: no. 2 pencil, black or red ball-point pen, straightedge, basic curves, pad of quarter-inch grid white translucent paper (grids printed in light green or blue), typewriter, light green pencil (for nonreproducible lines), and rubber cement.

In addition to using standard tools, the engineer should follow these simple rules:

1. Use quarter-inch grid paper as a base. The grids are valuable as reference lines and units of measurement.
2. Keep illustrations within a 6½- by 8-inch area.
3. Type all notes, numbers, legends, titles, etc. Avoid hand lettering.
4. Use a ball-point pen to make all lines as uniformly wide, dark, sharp, and well-defined as possible. When a wider line is desired for emphasis, use a no. 2 pencil with a broad point.
5. Keep illustration simple. Omit unnecessary information and lines.
6. Avoid touching a line with fingers or instruments once it has been drawn.
7. Visualize all elements in black and white.
8. Work on a smooth hard surface.

ILLUSTRATIONS FOR OFFSET REPRODUCTION

Offset reproduction refers to printing by means of duplicating presses, such as Multilith and Davidson. Offset reproduction has the advantage over other methods of reproduction, such as ditto and verifax, in that large-quantity and high-quality reproduction are attainable.

Graphs with Major Grids

1. Determine area of graph on quarter-inch grid paper. Locate major grids on existing grid lines.
2. Draw in grids bounding graph area by tracing with ball-point pen and straightedge.
3. Draw required curves or lines (Figure 1a).
4. Type notes, legend, numerical value of grids, and titles of ordinate and abscissa (Figure 1b).
5. Draw in legend next to respective definitions of the various types of lines used in drawing curves of graph (Figure 1c).

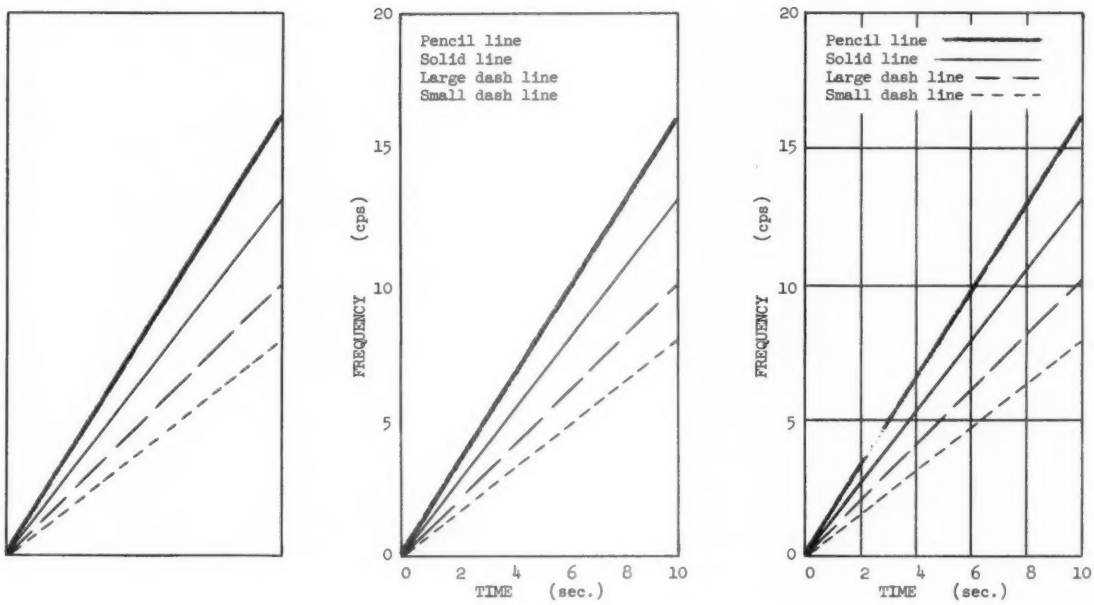


Figure 1 — Method for Offset Reproduction: Graphs with Major Grids

6. Draw in all grids numerically designed on ordinate and abscissa.

Graphs Using Other Types of Graph Paper

(Use only orange, red, brown, or black graph paper.)

1. Select a section of graph paper that meets the requirements for your graph. Draw in curves or lines (Figure 2a).
2. Cut desired section from graph paper (Figure 2b).
3. Place (do not fasten) section on quarter-inch grid paper to be used as background, so that the section's ordinate and abscissa coincide with two intersecting grids on background paper. On these grids lightly mark the location of the graph paper grids that are to be numbered (Figure 2c).
4. Type numerical value of grids and titles of ordinate and abscissa on background paper (Figure 2d).
5. Type legend and notes on a separate piece of paper. Draw in legend next to definitions of the various types of lines used in drawing curves of graph.
6. Fasten graph paper in place on background paper with rubber cement.
7. Cut legend and notes from separate sheet and fasten in place on graph paper (Figure 2e).

Simple Block Diagrams

1. Determine how many rows of typing each unit of a diagram will contain.
2. Choose a horizontal line on quarter-inch grid paper for a base line (Figure 3a).
3. Type words of first unit, centering them vertically on the base line.
4. Eight spaces after the letter farthest to the right in the first unit, type the words of the second unit, centering them vertically on the base line (Figure 3b).
5. Repeat step 4 until all units have been typed.
6. Using a straightedge and light green pencil, lightly rule horizontal lines about one space above and below each unit and parallel with the grids (Figure 3c).
7. Again using a straightedge and ball-point pen, rule vertical lines about one space to either side of each unit, connecting the light green top and bottom lines of each unit (Figure 3d).
8. Still using the straightedge and ball-point pen, trace over light green lines, connecting vertical lines of each unit.
9. Rule the connecting lines between units and add arrowheads to ends of each connecting line (Figure 3e).
10. Draw in any additional units not requiring typing. Add any additional typing that does not appear within a unit (Figure 3f).

ILLUSTRATIONS FOR DITTO REPRODUCTION

The ditto process, in contrast to the offset method, is used when only a small number of copies are desired and when the intended use of the document does not warrant either the slightly additional cost or the quality of offset reproduction.

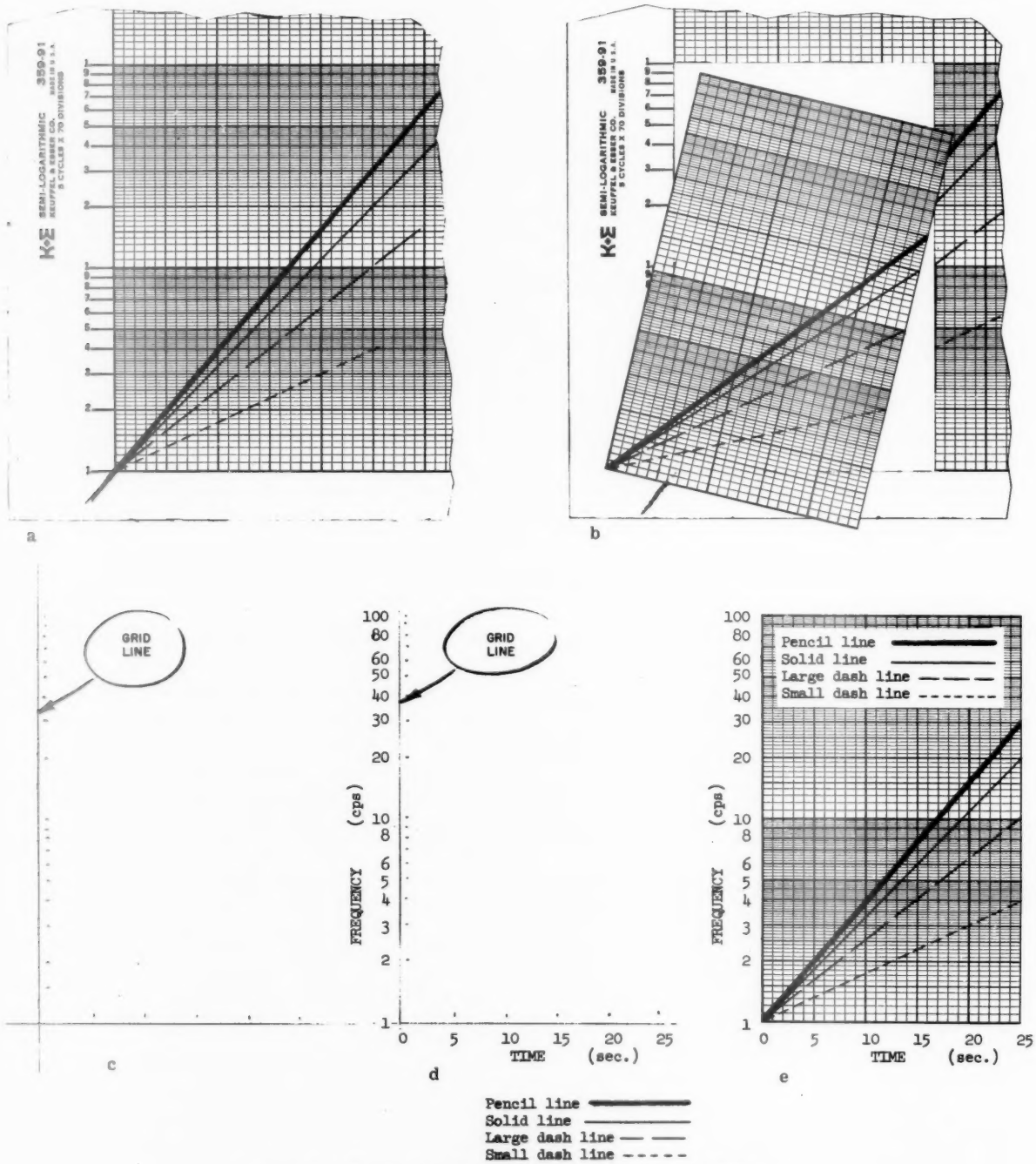


Figure 2 — Preparing Graph by Using Printed Grid Paper

General

1. Remove slip sheet from ditto master.

2. Use quarter-inch grid paper taped to ditto master. Use the grids as reference and guide lines.

3. Use ball-point pen only. Use consistently moderate pressure when ruling lines and drawing elements to be reproduced.

4. Type all notes, legends, numbers, and titles directly on master.

5. When drawing guide lines, insert slip sheet into master.

Note: To protect reproducibility, keep slip sheet in master.

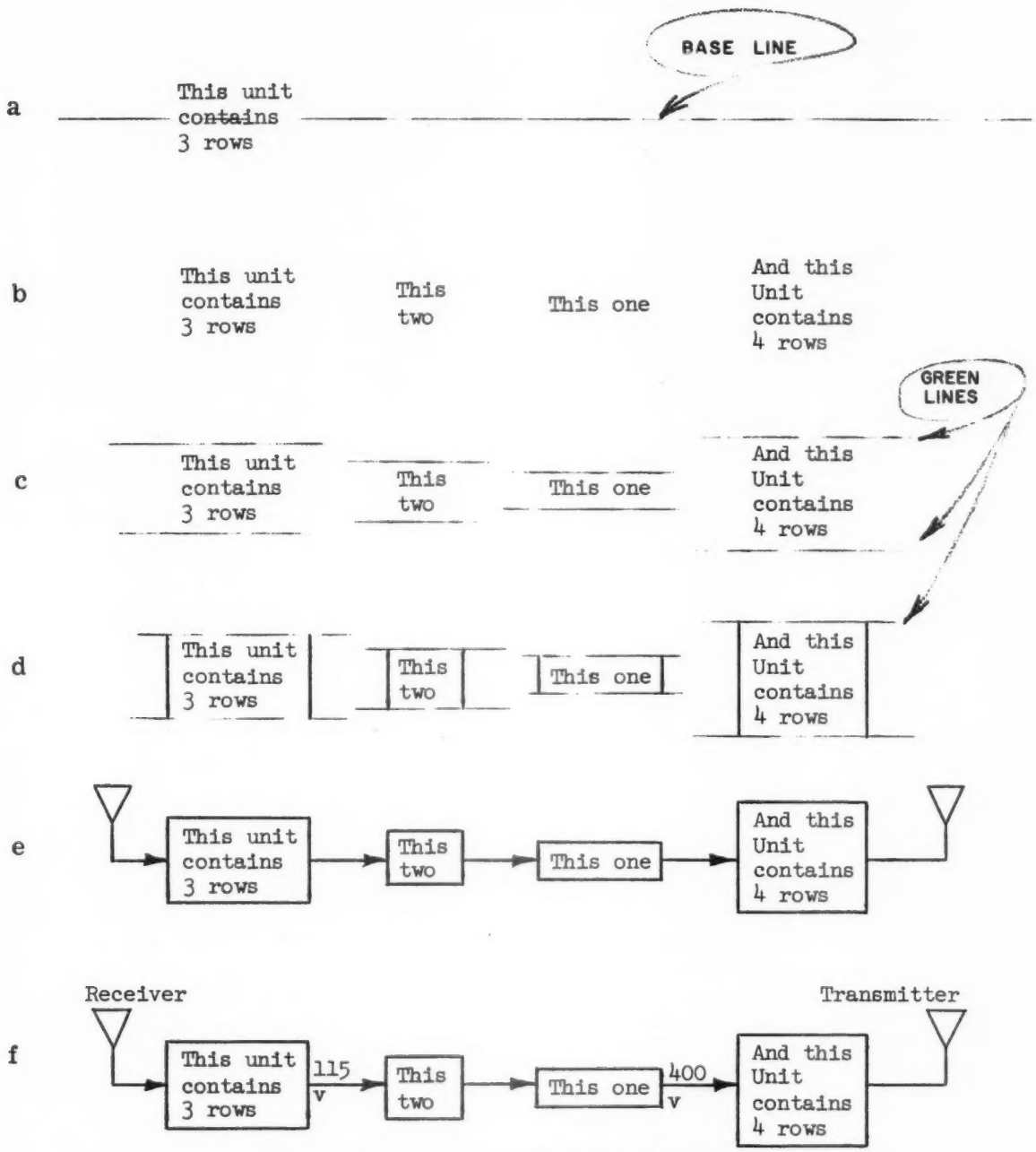


Figure 3 — Constructing the Simple Block Diagram

Graphs with Major Grids

1. Cut a piece of quarter-inch grid paper the size of the desired illustration. Determine area of graph and outline lightly (Figure 4). Leave adequate space for legend and notes if needed.

2. Tape grid paper into desired position on ditto master. Remove slip sheet.

3. Draw in grids bounding graph area.

4. Draw required curves.

5. Rule *all* desired grids with a straightedge and a ball-point pen.

6. Remove grid paper from master.

7. Although no lines have been drawn on master, if enough pressure was applied in steps 3, 4, and 5, an impression will appear on master. Use this to guide you in locating typewritten numbers, legends, and notes directly on master.

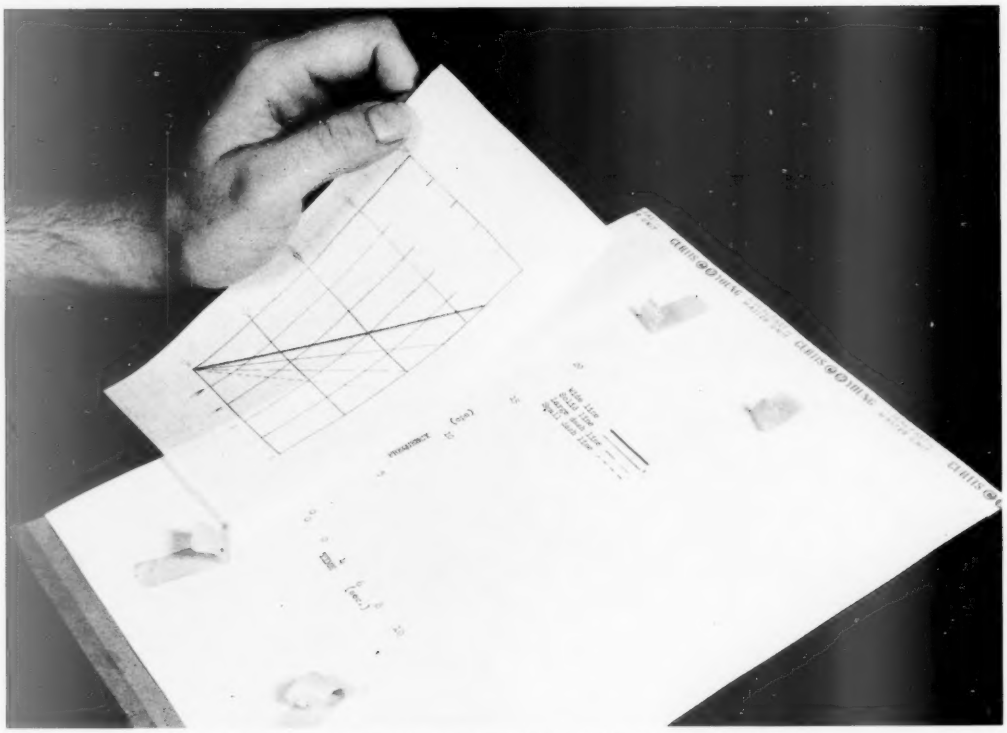


Figure 4 — Drawing a Graph for Ditto Reproduction

8. Draw in legend next to respective definitions of the various types of lines used in drawing curves of graph.

Simple Block Diagrams

1. Determine the number of rows of typing each diagram will contain.
2. Determine desired position of block diagram on ditto master. With the slip sheet still in the master, lightly rule a base line parallel to top and bottom edges of master. This line will not reproduce.
3. Remove slip sheet, insert master in typewriter, and type words of first unit, centering them vertically on the base line.
4. Eight spaces after letter farthest to the right in the first unit, type words of second unit, centering them vertically on the base line.
5. Repeat step 4 until all units have been typed.
6. Tape a piece of quarter-inch grid paper over illustration area, so that one of the grids is coincident with the base line on the master.
7. Insert slip sheet. Rule light green horizontal lines about one space above and below each unit and parallel with grids.
8. Remove slip sheet. Using moderate pressure rule vertical lines about one space to either side of each unit, connecting green top and bottom lines of each unit.
9. Using a straightedge and ball-point pen, trace over the light green lines connecting vertical lines in each unit.
10. Rule connecting lines between units, and add arrowheads to the ends of each connecting line.
11. Draw in any additional units not requiring typing.
12. Remove grid paper from master. Although no lines have been drawn on the master, if enough pressure has been applied, an impression will appear on the master. Use this impression as a guide in typing in any additional information that does not appear within a unit.

CONCLUSION

The intent is not to make artists out of engineers, but rather to supply the engineer with the necessary tools to do simple artwork should he be so inclined. Application of these instructions will permit the engineer to produce this artwork with only slightly more time and effort than is needed to produce rough sketches. Ω

About the Author . . .

ROBERT L. DOCKENDORFF *is a commercial illustrator for General Electric's Advanced Electronics Center at Cornell University, Ithaca, New York. He studied design at Pratt Institute before accepting employment at the center.*

His present work involves preparation of art for brochures, contract reports, and presentations. He also plans commercial displays. In addition, Mr. Dockendorff is a free-lance artist in his spare time, and has illustrated textbooks and similar documents for Cornell University.

The Question of Audience

Beekman W. Cottrell

Many years ago, when I first became aware of the woman who was Eleanor Roosevelt — at that time she was First Lady — I came to know, at the same time, what the word *ubiquitous* meant. For her name and that word were much seen together. Republicans made unkind jokes about Mrs. Roosevelt's globe-trotting, and even Democrats smiled ruefully at the constant activity of the wife of their beloved hero. She was photographed one week rubbing noses, in native greeting, with a New Zealand woman in full Maori costume. The next week, smiling and gracious, she was mingling with Chinese or Japanese children. But always, as I think back on it now, she was among the people, trying to be one of them. Their returning smiles indicated in how great a measure she succeeded. And the word *ubiquitous?* I learned that it means "everywhere at once — in many places at the same time." Joke or not, the word belonged with Eleanor Roosevelt.

In 1948 I had occasion to learn very personally how ubiquitous Mrs. Roosevelt could be and how successfully she could speak with people. It was in Paris, at the Sorbonne University. A select audience of French and American students and scholars were gathered in the rotunda. On the platform were robed academicians, formally clad diplomats, and scholars. In the audience were many French and a few Americans. The mixture, of course, posed a problem, and I wondered how Mrs. Roosevelt would solve it. When she entered, the audience rose, applauding and full of genuine love for her. They expected a pinnacle experience.

After the brief introduction by the chairman, Mrs. Roosevelt took her place at the rostrum, placing her notes before her. Then she looked out, smiling, and began to speak in French, impromptu, slowly but with clarity. It was a splendid gesture, and the audience was visibly moved. Her New England accent shone through, of course, rugged and unhideable, but she spoke earnestly, with simplicity and warmth, for perhaps ten minutes. She then turned to her formal speech in English, but by that time there was no danger. All listened, most understood, and everyone admired her for trying so much and achieving such a full measure in the true art of communication.

Though I did not form the thought carefully then, I can do so now. In the last ten years I have become increasingly aware of Eleanor Roosevelt's extraordinary ability to talk and to write to all people, everywhere. On television she combines sincerity with simplicity; in the women's magazines she answers questions sharply, honestly, directly but in full awareness of her variety of readers. In her books she writes not only of what she thinks is important but what she knows will interest her potential readers. Is this playing to the grandstand? Certainly not — at least not in the negative sense of the phrase. It is displaying a range of understanding and tact which we would do well to study and admire. It is not a question of politics, either, though my staunchly Republican family (where I am a black sheep) might see it in that light. And yet even there I think that such wisdom as Mrs. Roosevelt displays tells in the end.

My father, always a critic of the New Deal, said one day not long before he died, "You know, that Mrs. Roosevelt is a wonderful woman." He was referring primarily to her work at the United Nations, and yet behind his capitulation was a backlog of increasingly impressive moments when a woman of one country demonstrated how well and how fully she could speak with people of other lands, other faiths, other levels of experience, and other tongues.

For most of us, the job of communication is not so spectacular as the one which faces an Eleanor Roosevelt, a Winston Churchill, or a Charles De Gaulle. Our problems are relative microcosms, but the essence remains the same. When we write and when we speak it is rarely for ourselves alone. There is an audience — or an audience potential. Strangely enough, we very often tend to forget this factor.

Now I realize full well that I *am* writing for an audience and one which is peculiarly aware of the problems of communication — more so, indeed, than many other writers. We are obliged to make clear, to define, to inform in very special ways, and for a great variety of readers. And yet I have the temerity to say that very often we do not do our best jobs at this important task, and that we often let the mechanics of technical writing take over and supplant an informed, integrated, functional, whole solution to any particular writing task.

I use the word *we* because I am a technical writer — and an active member of a group where more sins

are committed than anywhere else I know: the Academic Jargon League. Therefore I make bold to use here the example I know best — the writing life I have led — as a case in point.

I came to graduate work after a college major in English, and a minor in Spanish, with never a thought of audience. The question, "For whom am I writing?" never so much as entered my mind. I wrote a Master's essay on Henry David Thoreau, and as I read it now I realize that some kind intuition kept me sensible and not overly pedantic. Surely no teacher ever broached the subject of pedanticism — at least not in *my* hearing! I began a doctoral dissertation in the English novel, and here I must have faced and solved the problem of how much my potential audience knew about the writers I was discussing, but I solved it in footnotes, in parentheses, or in an assumption of two kinds — either the reader knew, or he could go and look it up. This, I believe, is a fairly conventional pattern for the training of young English teachers.

THE "P" FACTORS

Then I began to teach. Since this was at Carnegie Tech, I didn't get very far before I began to hear of the audience problem, the reader-writer relationship, or the P-2 aspect (as it is familiarly known at Tech). P-1 is, of course, the first person, the writer; P-2, his reader. My first reaction to the problem was a kind of resentment. It was all too mechanical, too artificial. The teacher set up a problem with booby traps, and the unsuspecting student walked into it blind. Then the teacher could pounce and could lower the grade in consequence.

My second reaction was one of passive acceptance. The P-2 problem was just one of those things in the second semester freshman course, and one might as well do it right. I realized fully what a revelation the new kind of writing problems were for the freshmen, but I did not extend my wisdom beyond the classroom. Lately, however, I have come to understand a good many things (Is it one of the joys of growing old?) about the audience problem.

First of all, it is no "problem" at all. It means simply an integral understanding of each writing situation, and with a full understanding of the need comes much of the "solution." Secondly, it is not a shooting duck situation, a "set-'em-up-and-knock-'em-down" deal. It is much easier, more natural, more functional than that, this understanding of the bond between reader and writer. In the third place, the task is subtle, never-ending, and challenging beyond any conception of most of us when we begin to write. Unremitting patience, tact, and interest are some of the ingredients in all technical writing; skill with words, a true fund of knowledge, and a desire to communicate are others. Above all, there is no precise formula. Each task is a self-defining one.

If this sounds like an idealized picture of *all* writing, it is. For I am convinced that what we have set apart as the special province of "technical writers" is in fact the major concern of all writers, fiction and nonfiction alike. And I would suggest that even though a certain elite band of writers patently scorns the audience, they are at heart hoping for a responsive, sensitive mind — perhaps only *one,* but that one, choice. Thus we are all responsible: "All God's chillun got a audience."

DANGERS NOTED

Unfortunately, however, an awareness of the dual nature of writing is not enough. Or rather, it can be too much. For in our zeal to inform, to make clear, to orient, we can overdo the job. There are two great dangers inherent here: writing down and oversimplifying. I proudly sent off an article I had had published to a good and critical friend. His only comment was, "You have insulted me by your tone here. And in several spots you have considered me uninformed when I am not." I still hadn't learned my lesson, though this was well after my arrival at Carnegie Tech. In my thorough determination to give all the facts, I had gone too far. And it seemed to me worse than not having gone far enough.

The second great danger confronting the writer is all around us — in magazines, on the radio, in movies, and on television. We hear that the movies are pitched for the 14-year-old mind; that the TV westerns, though termed adult, are for kids; that the radio gives what its audience wants (this *seems* to be Rock and Roll); and that the magazines print stories "their (undefined) readers" like. In all cases, the result is oversimplification to the point of idiocy. We may as well give up if these media truly represent the picture of an adult American mind.

But I am confident they do not represent such a mind, and I am convinced that the simplification has come about progressively in response to a creator-audience demand. The media have given in. Should we? A first reaction to my argument might indicate that we should. But a second will, I hope, tell the tale. Rather than the cry of, "Give them what they like!", our motto should be to "Persuade them to like what we have to give them!" — if any slogan can really sum it up.

There is, of course, a basic difference in both aim and audience between *Finnegan's Wake* and *Peyton Place*. And no novel is under the need to address a particular group. The novelist or poet may cast his bread upon the waters. As long as any fish bites, he will be fulfilled, though of course he hopes for the appreciative biter. The writer of expository prose is more immediately under a demand to satisfy, to do his job, to inform and interest his reader.

In part, the technical writer's audience is more specially known to him, more critical. The novelist or poet can and must satisfy his aesthetic audience (or

readers) first. If the result pleases others, *he* is pleased. But the technical writer must at once be true to his subject, to himself, and to his immediate readers. He must calculate the effect; plan, organize, and complete his work — all this within the marketplace of the practical world. I am sure that the greatest creative artists do this same thing, but I think the time-atmosphere factors affect the expository prose writers — among them, surely, the technical writers — more directly.

TWO KINDS OF WRITING

Consider briefly two kinds of technical writing which are assumed to be fulfilling their aims. The first is the symphonic program note. It is always with us, and the music-going public is presumably enlightened by the details of the composer's life, what broken love led to the writing of the Third Symphony, what melancholia inspired the "Water Bird Ballet." The facts about a composer's life or his writing career are interesting and sometimes revealing. Yet I do question the connections of cause and effect so often made between the two in program notes.

But the technical writing aspect enters elsewhere. For where is the musical terminology supposed to fall? If with trained musicians, then the analysis is plain to their ears, and a potential insult; if with the untrained music lover, then what is the good of undefined musical terms — the *pizzicato,* the *sarabande,* the *answering brass choir?* The latter approach goes only to increase the inferiority complex of a person who "loves music but doesn't know anything about it" by raising the wall of technology between him and what should be a direct musical (emotional or rational) appreciation. Most program notes combine highly special information and very emotionally colored judgments in such a way as to imply that they are on the same level of existence.

Such a sentence as the following, from a discussion of Mahler's Second Symphony, rouses me in two ways. "In the last bars, chromatic triplets rush down from the high descant to the low registers of a bleak C minor." Now I am somewhat informed musically, and yet I am not sure what chromatic triplets or descant are; and I resent the words *rush down* and *bleak C minor* as completely subjective emotional reactions made by someone else and imposed upon my mind, when I should prefer to form my own musical impression. Yet few people, critics or laymen, have dared to question the positive contribution or validity of this kind of technical writing.

As a second example, think about the world of the textbook. Here we have presumed authorities writing books to clarify their subjects. Most often they know their material; less often do they write of it clearly. They define, but in equally complex terms or in jargon. They inform, but they crowd the facts, and by piling Pelion on Ossa they discourage a person new to their subject. They lose the sense of the whole, and very often their readers run amok in the confusing parts.

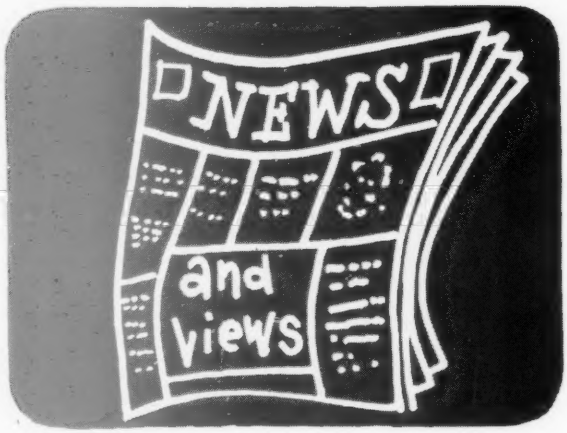
I am thinking primarily of a psychology text I know which ill defines its terms and confuses with poor organization. But its cardinal flaw has nothing — and everything — to do with technical writing. It is simply abominably written. The sentences are unclear; subjects change from singular to plural before the sentence is over. Verbs do not agree. In short, before most writers even get down to technical matters they are defeated because they do not practice clarity of writing and unity of thought.

To take the bad taste of such too-frequent lapses out of mind, think for a moment of a book which is both well known and excellent, Rachel Carson's *The Sea Around Us.* Her task was a stupendous one: to tell the history of the earth from its gaseous origins some two and one-half billion years ago to its development now, plant and animal; to interest and to inform the lay reader about the sea in scientific terms; and to enhance this information with an organic, philosophic, and poetic unity. She accomplished all her tasks so well that the result is still staggering each new crop of college freshmen, each new idle shopper in the paper-back book rack. One of the most effective ways in which Miss Carson solves the problem of technical knowledge is her habit of invariably defining the unknown in terms of the known, constantly relating the phenomena of the unknown sea to events or places on the known earth. She does this naturally and skillfully, but in so doing she helps us to move quite literally from solid ground to deep water. And incidentally she has surely helped to add at least one new word to the general vocabulary. I had a research paper from a freshman only last year entitled *Plankton au Jus!*

It can be done, and we are all under the strongest obligations to do the job well, the combined job of interesting and informing our audience. The task is not done best with gimmicks or tricks. It is done best if the writer keeps two things in mind. The first is a continuous sense of tact. The word comes from the Latin verb *tangere* — to touch. Keep in constant touch. The second follows as the night the day. If the writer keeps in touch with his audience, there will be a consequent communication, born of the twin desire to write, and to be understood. Ω

About the Author . . .

BEEKMAN W. COTTRELL *is assistant professor of English at Carnegie Institute of Technology, where he specializes in literature. His previous teaching experience was gained at the University of Kentucky and at Columbia University, where he was awarded his Ph.D. in 1956. Dr. Cottrell has a wide range of interests in the arts, including music. He has indulged his travel hobby by extensive and repeated journeys through Europe and the American Far West. His literary publications lie chiefly in the realm of articles on such notables as William Faulkner, Edna St. Vincent Millay, Graham Greene, and Robert Penn Warren.*



By A. Stanley Higgins

CONVENTION TIME IS UPON US once again, and Chairman George Estill and his West Coast assistants apparently have the red carpet ready to roll in San Francisco. This site, coupled with the fact that our sessions will be held at the Mark Hopkins Hotel, should have a great attraction to many of our members. I heard someone remark, "If I'm going that far to a convention, the program had better be good." From all indications, this person won't be disappointed because the program is a well planned one which includes most of the fields of specialization in STWP.

Of course each participant evaluates a convention almost entirely on its worth to himself, and he has his own personal weighting for such factors as program coverage, caliber of speakers, idea-sharing and two-way discussion provisions, convention management, and even scenic attractions of the host city. Another factor that might be highly regarded by some is the opportunity for between-session contact with other members of our profession who are employed in many different industries and in all parts of the United States. We will have to wait and see, but right now I'm predicting that this will be the best convention we have ever held.

PROFITS IN PROSE is the title of a well-written article by Langley Carleton Keyes in the January-February 1961 issue of the *Harvard Business Review*. Mr. Keyes, who is executive vice-president of an advertising agency and the author of a book on Henry David Thoreau, calls on management to do something about reducing waste in the "sprawling, edgeless area of written communication." His amusing examples of how not to write are likely to have a familiar ring to STWP members. The author maintains that one's proper development as a writer depends largely on his alertness as a *reader*. Look up the Keyes article; you'll find it not only instructive but also a good piece of writing.

A TECHNICAL WRITING BIBLIOGRAPHY is described in a recent listing of ASTIA. The unclassified report is by R. L. Blessington, of Autonetics, and is titled *Technical Writer's Guide to Literature on the Art of Writing*. Prepared for present and potential technical writers, the bibliography contains 281 references. Major subject headings are General Works on Language and Composition, General Writing Aids, Technical Writing, and Technical Writing Aids.

THE SUBJECT INDEX published in this issue of the *Review* furnishes a means of analyzing the coverage of the magazine during the past two years. Compiled by Betty Kirchhof, our book review editor, the index shows the following topical mix:

Category	Number of Entries
Business procedure	1
Copyright	1
Documentation	6
Graphic arts	3
Professionalism	6
Publications	
General	2
Manuals	3
Reports	5
Proposals	2
Typesetting	1
Writing	
General	3
Opportunities	6
Training	8
Technique	8

It should be pointed out that the indexer made only one entry per article, which means that the above tabulation gives a true picture of the subject matter covered by the *Review* over an eight-issue period.

From the table it is seen that about 30 percent of the entries are for writing technique and training, while about 20 percent are for specific kinds of publications. The number of entries for reports, manuals, and proposals is apparently proportional to the number of members we have working on each of these types of publications.

One purpose served by the subject index is that of content analysis, and we are interested in your interpretation of the coverage of the *Review* which is indicated by the index. Is your specialty missing? Can you suggest areas not touched on which would be of interest to a large segment of our readership? We'd like to hear from you.

PROGRAMS FOR SUMMER SESSIONS at Colorado State and at Rensselaer have been announced. This year's Technical Writers' Institute at RPI is scheduled for June 12 to 16. According to Dr. Jay R. Gould, the theme of the conference will be the technical writer and his relation to the expanding uses of

(Continued on Page 37)

EIGHTH ANNUAL STWP CONVENTION

April 13-14, 1961 — San Francisco, California

"Technical Communications — A Bridge to Scientific Progress," theme of the Society of Technical Writers and Publishers Eighth Annual Convention, will be examined April 13 and 14 from at least 45 angles.

That is the number of leaders from industry, education, government, the press, and research institutions who will express their views as speakers or panelists.

Keynote speaker will be Prof. Harold G. Cassidy of Yale University — scientist, educator, speaker, and author. His topic will be "The Technical Writer's Scientific and Moral Responsibilities in Communicating With the Layman."

General-session and luncheon speakers, panelists, topics, and the convention schedule are shown in the program, presented on the following pages.

Convention registration desks at the Mark Hopkins will be open as follows: Wednesday, April 12, 4 to 9 p.m.; Thursday and Friday, April 13 and 14, 8 a.m. to 12 noon. Registration fees for members and nonmembers, shown on the attached blank, will include a copy of the published proceedings containing all papers presented at the convention. Registration will be simplified by sending the advance form at once, although pre-registration is not mandatory.

Hours for the exhibit of equipment and services which will be held in conjunction with the convention are as follows: Thursday, April 13, 9 a.m. to 9 p.m.; Friday, April 14, 9 a.m. to 2 p.m.

Hotel and restaurant information, along with hotel-registration forms, has been mailed to all STWP members.

Many extra-convention activities will be available. These will include sightseeing tours, a formal ball being held by the San Francisco Symphony Association, San Francisco Giants baseball, and the STWP cocktail party at the famed Top O' the Mark.

CONVENTION PROGRAM

THURSDAY, APRIL 13, 1961

8:00 to 9:00 a.m. REGISTRATION

9:00 a.m. OPENING SESSION — Peacock Court
Call to order by George H. Estill, Convention Chairman
Welcome by Dr. Vernon M. Root, President, STWP

9:15 to 10:00 a.m. KEYNOTE ADDRESS
"The Technical Writer's Scientific and Moral Responsibilities in Communicating to the Layman"
Prof. Harold G. Cassidy, Department of Chemistry, Yale University, New Haven, Connecticut

10:00 to 10:30 a.m. COFFEE BREAK

10:30 to 11:00 a.m. GENERAL SESSION — Peacock Court
"A Scientist Looks at the Problem of Technical Communications"
Dr. Charles M. Mottley, General Manager of Operations, Stanford Research Institute, Menlo Park, Calif.

11:00 to 11:30 a.m. GENERAL SESSION
"Group Communications"
Irving B. Kahn, President, TelePrompter Corporation, New York, N. Y.

11:30 a.m. to 12:15 p.m.
SPECIAL PANEL — *Your STWP Review*
Golden Empire Room
Moderator: Allan H. Lytel, Director of Publications, Avco Corporation, Cincinnati, Ohio
Editor, STWP *Review*
"What is the *Review?*"
A. Stanley Higgins, Senior Editor, Central Laboratories, Westinghouse Electric Corporation, Pittsburgh, Pennsylvania
Assistant Editor, STWP *Review*
"What Does the *Review* Need?"
Frank R. Smith, Professor and Head Department of Humanities, Institute of Technology, Air University, U. S. A. F., Colorado Springs, Colorado
STWP *Review* Editorial Board

12:30 to 2:00 p.m. LUNCHEON — Peacock Court
"Potential Uses and Abuses of Gigantic Machine Memory"
Bernard S. Benson, President, Benson-Lehner Corporation, Santa Monica, California

2:15 to 5:00 p.m. Golden Empire Room
PANEL 1 — *Trends in Instruction Manuals*
Moderator: Robert L. Craig, General Manager, Technical Writing Service, McGraw-Hill Book Company, New York, N. Y.
"Manufacturer's Responsibility for Preparing Unit Overhaul Manuals Under Air Transport Association Specifications (ATA100)"
M. R. Callow, Manager, Publications and Services, Technical Services Department, Trans World Airlines, Inc., Kansas City, Missouri
"DOD Instruction Book Study Project"
Robert F. Harvey, Assistant Chief, Standardization Division (Engineering), Armed Forces Supply Support Center, Washington, D. C.
"Using Automatic Máchine Data in Technical Manuals"
Robert D. Johnson, Head, Technical Manuals, Computer Laboratory, Hughes Aircraft Company, Fullerton, California
"Automotive Maintenance Manuals"
Carl T. Doman, National Service Manager, Ford Motor Company, Dearborn, Michigan

2:15 to 5:00 p.m. Argonaut Room
PANEL 2 — *New Approaches in Education and Training*
Moderator: Emlen Littell, Executive Editor, Stanford University Press, Stanford, California
"Mass Communication Skills: Postgraduate Training and Research"
Prof. Clifford F. Weigle, Department of Communication and Journalism, Stanford University, Stanford, California
"In-Plant Training"
Assoc. Prof. John A. Walter, Department of English, University of Texas, Austin, Texas
"The Promise of Auto-Instruction"
Leslie J. Briggs, Director, Western Division, American Institute of Research, Santa Barbara, California

2:15 to 5:00 p.m. Baldwin Room
PANEL 3 — *Technical Publicity — How to achieve cooperation between the technical man and the press*
Moderator: Edward B. Chester, Head, Publications Branch, Cornell Aeronautical Laboratory, Inc. Buffalo, N. Y.
"What the Press Expects from the Technical Man"
William Hines, Science Editor, The Evening Star, Washington, D. C.
"What the Technical Man Expects from the Press"
Peter N. Sherrill, Manager of Marketing, Promotion and Technical Publications, Hewlett-Packard Co., Palo Alto, California
"Never the Twain Shall Meet"
Walter Bonney, Public Relations Director, Aerospace Corporation, El Segundo, California

2:15 to 5:00 p.m. Phoenix Room
PANEL 4 — *Automation of Information Production and Retrieval: Its Effects and Requirements upon Editors and Publishers*
Moderator: Charles P. Bourne, Research Engineer, General Systems Department, Stanford Research Institute, Menlo Park, California
"Automation of Technical Drafting, Writing, and Editing Functions"
Charles P. Bourne, Research Engineer, General Systems Department, Stanford Research Institute, Menlo Park, California
"The Library of Tomorrow"
Miss Marjorie Griffin, Head Librarian, Advanced Systems Development Division, International Business Machines, San Jose, California
" 'John Henry' and the Technical Editor"
Norman Sly, Senior Publications Engineer, Research Technical Publications (50-15), Lockheed Missiles and Space Division, Sunnyvale, California

FRIDAY, APRIL 14, 1961

8:45 to 9:45 a.m. BUSINESS SESSION — Peacock Court
Dr. Vernon M. Root, President, presiding

9:45 to 10:15 a.m. COFFEE BREAK

10:15 a.m. to 12:15 p.m. Golden Empire Room
PANEL 5 — *Military Sales Proposals*
Moderator: Berwyn N. Fragner, Vice President, Western States Division, Royer and Roger, Inc., Panorama City, California
"When and How to Propose"
Sanford L. Donner, Manager, Atlas Contracting, Radio Corporation of America, Van Nuys, Calif.
"Organizing For Sales Proposals"
M. Sherman, Deputy Director Plans and Management, Space and Information Systems Division,

North American Aviation Corporation, Los Angeles, California

"The Military Reviews A Sales Proposal"
Harlan Robinson, Associate Manager — Sales Planning, Hughes Aircraft Company, Culver City, Calif.

10:15 a.m. to 12:15 p.m. Argonaut Room

PANEL 6 — *Goals for the Technical Report*

Moderator: Dr. Myron White, College of Engineering, University of Washington, Seattle, Washington

"What Management Wants: A Research Report"
Assoc. Prof. James W. Souther, College of Engineering, University of Washington, Seattle, Washington

"What a Scientific Audience Wants"
Prof. Joe W. Kelly, Department of Engineering, University of California, Berkeley, California

"What Management Thinks the Sponsoring Agency Wants"
John G. Fawcett, General Supervisor, Technical Publications, The Marquart Corporation, Van Nuys, California

"What the Sponsoring Agency Wants"
Gordon B. Ward, Asst. Director, Research Data and Information Services Program, Office of Scientific Information, National Science Foundation, Washington, D. C.

10:15 a.m. to 12:15 p.m. Baldwin Room

PANEL 7 — *Hot Type — Cold Type*

Moderator: Ross Frizzle, Parker and Sons, Inc., Los Angeles, California

"Advantages of Cold-type"
H. L. Lindsay, Director of Education, Friden Co., Rochester, N. Y.

"Typesetting in the Twentieth Century"
Nat Goldenberg, General Manager, Mercury Typesetting Co., San Diego, California

"The Choice — Hot type or Cold type"
Seymour Berns, Supervisor - Production, Maintenance Engineering, General Electric Company, Cincinnati, Ohio

10:15 a.m. to 12:15 p.m. Phoenix Room

PANEL 8 — *Organizing Successful Chapter Activities*

Moderator: Gilles Demers, Supervisor - Publications, General Dynamics - Electronics, San Diego, Calif.

"Organizing Professional Groups on The Chapter Level"
Waldo D. Boyd, Head, Technical Manuals, Aerojet-General Corp., Sacramento, California

"Membership Drives"
Joseph Kleineman, Publications Section Head, Sperry Gyroscope, Great Neck, New York

"Chapter Programming"
H. C. McDaniel, Director, Technical Information, Westinghouse Electric Corporation, Pittsburgh, Pennsylvania

12:30 to 2:00 p.m. LUNCHEON — Peacock Court

2:15 to 4:30 p.m. Golden Empire Room

PANEL 9 — *Management Insight Into Your Publications Future*

Moderator: Seymon Hersh, Manager, Technical Publications & Training, West Coast Missile and Surface Radar Division, Radio Corporation of America, Van Nuys, California

"Dismiss or Promote — What are the Criteria?"
Allan Lytel, Director, Publications, Avco Corporation, Cincinnati, Ohio

"Pioneer or Organization Man — Which is Your Best Role?"
Carl Whitesell, Head of Technical Publications Department, Sperry Utah Engineering Laboratory, Salt Lake City, Utah

"A Publications Manager's Job Description — Would You Take the Job?"
Gunther Marx, Manager, Technical and Management Communications, American Machine and Foundry, Springdale, Conn.

"Merit Evaluation, Organization Size, and Management in a Subcontractor's House"
Samuel A. Miles, Miles-Samuelson, Inc., New York, N. Y.

2:15 to 4:30 p.m. Argonaut Room

PANEL 10 — *Technical Editing: The Bridge to Understanding*

Moderator: Dr. Graham Unikel, Head, Technical Reports, Research Technical Publications, Lockheed Missiles and Space Division, Palo Alto, California

"Editing: From Engineer to Engineer"
John Bennett, System Development Corporation, Santa Monica, California

"Editing: From Scientist to Informed Layman"
Ed Hutchings, Jr., Editor, *Engineering and Science Monthly*, California Institute of Technology, Pasadena, California

"Editing: From Scientist to Student"
Edward A. Shaw, University of California Press, Berkeley, California

"Editing: From Scientist to Administrator"
James Campbell, Jr., Superintendent, Technical Publications, Defense Activities Division, Western Electric Company, Winston-Salem, North Carolina

2:15 to 4:30 p.m. Baldwin Room

PANEL 11 — *Quick-Look Technique Applied to Technical Films*

Moderator: Robert B. Steel, General Manager, Motion Picture Division, Miles-Samuelson, Inc., San Diego, California

"Pre-planned Script Preparation"
Everett B. Baker, Head, Documentary Film Production, Naval Ordnance Test Station, China Lake, California

"The Quick-Look Television Technique"
Roy Neal, Chief, N.B.C. News, National Broadcasting Company, Hollywood, California

"Video Tape-to-Film Technique"
Bradley Kemp, General Manager, Video View Division, General Film Labs, Hollywood, California

2:15 to 4:30 p.m. Phoenix Room

PANEL 12 — *The Function of Design and Illustrations in Technical Communications*

Moderator: Robert O. Shockney, General Manager, Mercury Technical Publications, San Diego, Calif.

"Design in Technical Communications"
Stanley B. Hodge, Chief, Art Section, Communication Department, Convair-Astronautics, San Deigo, California

"Illustrating for Communication"
Steven Paton, Manager, Graphics, Ryan Company, San Diego, California

"Establishing The Level of Presentation for Technical Communications"
Stanley I. Mason, Hunt Foods, Inc., Los Angeles, California

Aviation Corporation, Los Angeles,

ws A Sales Proposal"
. Associate Manager — Sales Plan-
craft Company, Culver City, Calif.

Argonaut Room

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HEON — Peacock Court

Golden Empire Room

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ON PROGRAM

"Pioneer or Organization Man — Which is Your Best Role?"
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Edward A. Shaw, University of California Press, Berkeley, California

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James Campbell, Jr., Superintendent, Technical Publications, Defense Activities Division, Western Electric Company, Winston-Salem, North Carolina

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ADVANCE REGISTRATION FORM

8th ANNUAL CONVENTION • SOCIETY OF TECHNICAL WRITERS AND PUBLISHERS
San Francisco, California STWP April 13 and 14, 1961

To help the Program and Hospitality Committees complete their plans:

Of each concurrent session, I am most likely to attend:

Thurs. p.m.	Fri. a.m.	Fri. p.m.
☐ 1. Instruction Manuals	☐ 5. Military Sales Proposals	☐ 9. Publications Management
☐ 2. Education and Training	☐ 6. The Technical Report	☐ 10. Technical Editing
☐ 3. Technical Publicity	☐ 7. Hot Type - Cold Type	☐ 11. Technical Films
☐ 4. Information Retrieval	☐ 8. Chapter Activities	☐ 12. Graphic Communication

Count on me ☐ and my wife ☐ for:

Thurs. p.m.	Thurs. a.m.	Fri. a.m.
☐ Cocktail party, Top O' The Mark 5:30-7 p.m. Each person - $3.00	Count on my wife for (ladies only):	☐ Tour of San Francisco $3.10
☐ Dinner at Fisherman's Wharf - A la carte	☐ Continental breakfast and conducted tour of shops (*No buying permitted during tour*) $2.50	☐ Lunch during tour
☐ Grayline Night-Life Tour *All-Expense: 1 drink at each of 4 nightspots, floorshows, tax, tips, and transportation* Each person, $11.00		*Cliff House, at the ocean* A la carte

Please print or type *Preregistration closes April 1, 1961*

Name_____ Position_____

Affiliation_____

Address_____

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Where staying in San Francisco?_____

PLEASE CHECK APPLICABLE BOXES	☐ Both Days	☐ Thurs. Only	☐ Fri. Only
☐ Member or Educator	$12.50	$10.00	$10.00
☐ Nonmember	17.50	15.00	15.00
☐ Student	5.00	5.00	5.00
☐ Luncheon	☐ 8.00	☐ 4.00	☐ 4.00
☐ Extra luncheon tickets; show no. in box	☐ 8.00	☐ 4.00	☐ 4.00

TOTAL ENCLOSED $_____ Payable to STWP Convention Finance Chairman

FOR YOU

If you don't learn a great deal about technical publications on April 13 and 14 — and enjoy yourself at the same time —it won't be STWP's fault.

Whether you are more interested in communications or cocktails, STWP or sightseeing, convention or cable car, knowledge or night life, education or eating, reports or relaxation — you'll find them all at our eighth annual convention, to be held on those two days at the Mark Hopkins Hotel in San Francisco.

Top-notch general speakers, a dozen lively panels on highly interesting topics, and San Francisco in Spring are waiting for you. Everything is arranged; the rest is up to you.

General-session speakers will be Dr. Charles M. Mottley, general manager of operations, Stanford Research Institute, "A Scientist Looks at the Problem of Technical Communications," and Irving B. Kahn, president, TelePrompter Corp., "Group Communications."

Bernard S. Benson, whose warning about the dangers of misuse of automatic "brains" aroused international interest when he talked at a UNESCO meeting in Paris in 1959, will be one of the luncheon speakers. Benson, president of Benson-Lehner Corp. of Santa Monica, Calif., will discuss "Potential Uses and Abuses of Gigantic Machine Memories."

Representatives of industry, government, education, research, and the press will take part in a dozen panels covering a broad range of topics related to technical publications. Panel subjects include instruction manuals, education and training, technical publicity, automation of information production and retrieval, military sales proposals, technical reports, production techniques, STWP chapter activities, publications management, technical editing, technical films, and graphic arts.

When you're not listening to a speaker, taking part in a question-and-answer period, or exchanging ideas in a private "bull session," there will be the industrial exhibit with dozens of displays of the latest equipment and services in the field. Those signing up early for exhibit space included the National Science Foundation of Washington, D. C., and printing, graphic arts supply, and technical publications contract concerns.

Naturally, you'll be attending the convention to learn more about the theme subject — "Technical Communications, A Bridge to Scientific Progress" — and to contribute to the future of technical publications and STWP. But the convention will not run 24 hours per day, so it is just possible you may want to take advantage of all San Francisco offers as a convention city. Among a multitude of attractions are night life (including STWP's own cocktail party at the famed Top O' the Mark), major league baseball, the sights of the cosmopolitan city and environs, arranged tours, etc.

Hospitality Chairman Lydia Orloff reports the following weather and dress information for eager convention-goers and their wives:

- Spring will be on hand, meaning Golden Gate Park will be at its loveliest, cherry trees will be blooming in the famous Japanese Tea Garden, and San Francisco's noted downtown flower stands will have their most profuse offerings.
- Days will be sunny and clear, with an average maximum temperature of 62.1 and an average minimum of 49.4.
- San Francisco women are considered among the most beautifully groomed in the world; they favor lightweight wool suits and dresses and (because of the breezes) small hats, feel undressed without hats and gloves, and wear furs if they have them. Female convention-goers probably should include a dark silk basic dress or two-piece costume or a dark cotton for that possible extremely warm day; a light wrap is essential.
- Men in San Francisco prefer the more conservative, light-to-medium weight wool suit (flashy sport clothes are not seen much).
- Rain is a rarity in San Francisco in April but not an impossibility.

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Publishing the Weekly Technical News Bulletin

W. H. Puder

A weekly technical news bulletin published by Sandia Corporation, a Western Electric subsidiary in Albuquerque, has made possible the publication of scientific and technical information that antedates formal publication by six months or more. The publication, "Technical Notes," has been published over the past three years to communicate new knowledge in the fields of nuclear science, electronics, basic physics, and others.

Sandia Corporation, a prime contractor to the Atomic Energy Commission, has a basic design responsibility for the development of non-nuclear hardware for atomic bombs, warheads, and projectiles. Sandia also maintains a concomitant responsibility for planning the manufacturing and production operations, for development of quality assurance and surveillance programs, and for production and maintenance of military liaison and training manuals and other publications. Into these fields must be concentrated an array of basic and applied researches into the several physical sciences, material and test standards, and telemetry and other measurement techniques. To report and define the recurring advances in these fields, Technical Notes was conceived.

FORMAT

Technical Notes is mimeographed. The use of mimeograph reproduction was decided upon to effect economies in time and materials. Because mimeograph reproduction does not permit the facile use of illustrative graphs, schematics, or photographs, the Xerox process is used when illustrative material is published. Distributed to more than 3000 management and technical staff personnel at Albuquerque, at Livermore, California, and at remote facilities, Technical Notes is published weekly to keep pace with continuing progress in the field.

From its inception, Technical Notes has been designed to be useful. Will the item describe a new technique, a new skill, a new component which can be used by research and development personnel? Is the item significant? Will the item guide or assist or inform research people? In this manner the editorial guide of usefulness obviates the printing of items which might be construed as solely of news content. For example, "The construction of a new $1,350,000 environmental research laboratory was announced today by Sandia Corporation . . . "

Although geared fundamentally to the precept of usefulness, Technical Notes is also published with the following editorial objectives:

1. To minimize the possibility of parallel programs.
2. To share mutually the several development problems inherent in the development of nuclear weapons.
3. To stimulate original research and development thinking.
4. To stimulate an awareness on the part of research and development personnel of their mutual progress in the development of new concepts, new weapons, and new nuclear hardware.
5. To build up a body of indexed knowledge which, because its scope is corporation-wide, can be used by management to detect research and development trends.
6. To publish items of transitory technical information which, because they are derived from personal interviews, might otherwise be lost under the growing mass of published technical information.

The editorial body of Technical Notes is comprised of a series of 10 to 12 short, concisely written paragraphs separated by two-space intervals. The major topic of each paragraph is described in the first sentence; the topic is underlined and capitalized for editorial emphasis. After the topic sentence, the paragraph is developed in a style analagous to the so-called "scientific reporting method": the topic sentence is enlarged upon, technical skills used or problems encountered are described, resultant test data are tabulated, and findings are given. The paragraph closes with a reference to the individual who originated the information, his organization, and telephone number. The paragraphs seldom run more than 100 to 200 words.

As can be seen in Figure 1, each item highlights the paragraph subject in the first sentence. From the illus-

Technical Notes

VOL. V NO. 6
February 21, 1961

Edited by: Technical Information Division, 3423.
Items for *Technical Notes* may be phoned to ext. 35143 or 26136, or mailed to org. 3423-1, bldg. 818.

NOTES ON RESEARCH AND DEVELOPMENT TECHNOLOGY AT SANDIA CORPORATION

A NEW TIMER FOR THE TRIFILAR PENDULUM located in the 1215 mockup area in Bldg. 880 makes possible a more accurate determination of moments of inertia for components weighing up to 150 pounds. Cylindrical components up to 38 inches in diameter by 48 inches long may be tested; other shapes with dimensions exceeding 38 x 48 inches may be tested, however, depending on the shape of the object and the desired axis of swing. Both centroidal and noncentroidal values of the moment of inertia may be ascertained. Use of the pendulum by interested R&D personnel is welcomed. For information call John Brown, 1215-1, Ext. 2323.

A TABLE FOR COMPUTING TRIVARIATE NORMAL PROBABILITIES has been prepared by Org. 1516. A recent paper, as yet unpublished, summarizes the fundamental formulas for the tables, derives the relationship between the trivariate normal integral and the tabulated function, describes the table, cites examples, and extends the method to higher dimensions. Details are available from Jack Green, 1516-1, Ext. 3119.

THE DESIGN OF TUBES AND CIRCUITS FOR FAST OPERATIONAL ELECTRONIC SYSTEMS has been investigated by Org. 1781. The study describes an ideal approach for tube and circuit design for such systems. The study also describes several considerations of tube, circuit, and heater design, and cites tube specifications for fast operational application. Details from Alvin Blue, 1781-3, Ext. 8235.

THE REPRESENTATION OF FAST, SINGLE HIGH-VOLTAGE PULSES in the 10-kilovolt range on an oscillograph is described in a recent report by Organization 1831. A capacitive divider was successfully used with the Tektronix 517 oscilloscope to reduce sensitivity to 15 kilovolts full-scale deflection without materially imparing frequency response. Also described in the report are methods of producing steep high-voltage pulses. Further details are available from the SCTM298-57(25) or from Jim Black, 1831-2, Ext. 2838.

DOSIMETRY TECHNIQUES are being developed and evaluated by Org. 1922 to measure both radiation environments and the amount of energy absorbed by materials in such environments. Techniques are being developed for measuring not only gamma radiation but also neutron and mixed gamma ray and neutron fields characteristic of fission sources. Instruments now being evaluated include chemical, phosphate glass, hydrocarbon-dye, and cellophane-dye dosimeters. Other details are available from Tom White, Org. 1922-4, Ext. 9292.

WANTED--The loan of several RF signal generators and vacuum tube voltmeters for use in the Sandia Corporation Evening School. The signal generators must cover the range of intermediate and radio frequencies in the broadcast, short wave, and FM bands. The equipment will be needed from January 1 to July 1, 1958. Any organization wishing to lend such equipment should contact Homer Riley, Org. 3617, Ext. 5115.

Figure 1 — Technical Notes, Weekly Bulletin of Sandia Corporation

PROPOSED NEWS ITEM FOR:

Technical Notes

DEADLINE:_____

Please review the following news item for Technical Notes. Make necessary corrections, deletions; add more recent data. Indicate your approval below. Then return by Company mail.

A NUCLEAR BATTERY FUNCTION TESTER has been developed by Org. 1614-1 for checking the ability of nuclear batteries, connected in series, to charge and/or maintain a high-voltage charge on a capacitor of good quality (with a dissipation factor of 0.0004%). Voltages up to 20 kv have been used with excellent results.

To bring the leakage current to a minimum, the mounting plate for the nuclear batteries, the feed-through insulators, and the stand-off insulators of the high-voltage changeover relays were made of Teflon. All high-voltage leads were insulated with Teflon sleeving, and all solder joints and rough surfaces were covered with a silicone adhesive. Leakage current at 20 kv was less than 2×10^{-11} amperes. Details from J. K. Poore, 1614-1, Ext. 37165.

APPROVALS

Originator:_____ Division:_____

Section:_____ Department:_____

SC 7100-C (11-58)

Figure 2 — Index Card for Items Appearing In Technical Notes

tration it can also be seen how the material has been editorially slanted toward the concept of usefulness.

SOURCES

The content of Technical Notes is derived from many sources. A major portion is found in the abstracting of formal documents, minutes of interorganizational and intraorganizational committees, weekly activity summaries, research and development bulletins, external technical press releases, component status reports, and the like. The abstracting of these documents constitutes the "bread and butter" portion of the publication. Yet, because abstracted material can often assume a static quality, the personal interview with a project or weapons scientist has become a major technical news source.

The personal interview, usually conducted at the desk of the scientist or at some test site in the field, often produces information that is more timely than that abstracted from various documents. The item derived from the personal interview often represents a before-the-fact piece of technical information and possesses a considerable degree of usefulness. Such information might include preliminary data from flight tests, conjectures as to the performance of components under environmental tests, and hypotheses and proposals for basic or applied research programs.

Because the general cant of abstracted information may tend toward dryness, the importance of the interview in maintaining the vitality of a research and development publication cannot be overemphasized. From the personal interview can be derived information that antedates formal publication by *more than six months.*

INDEXING SYSTEM

Technical data derived from these sources are typed on the Technical Notes card, a Keysort Index card

measuring 7½ by 8½ inches, preprinted as shown in Figure 2. The typed card with the final edited version of the news item is sent through company mail to its originator; thereafter, the card is approved by the originator's section chief and division and departmental supervisers, and then is returned to the editorial staff of Technical Notes for incorporation in the next issue. After publication, the card is filed, where it becomes part of a retrieval index file which will be used when trained personnel become available.

An indexing system for information retrieval became mandatory since the rapid growth in the number of technical news items greatly increased the possibility of reprinting an already published item. Also, from its inception, Technical Notes has contained data that have prompted recurrent inquiries from engineers and other technical personnel. Each item is cross-referenced to the technical document from which the abstract was derived by date of publication, author or originator, and subject.

As an internal publication of a prime contractor to the Atomic Energy Commission, Technical Notes often borders on atomic security-sensitive areas. To obviate the possibility that information items might release classified data, a channel for prepublication security review of the material was established. This review is made by the Sandia Corporation Classification Board prior to publication; material found to be classified is published in a special issue of limited circulation.

RESULTS

The response of engineering and technical personnel to the weekly publication has been good. A continuing survey of telephoned responses and requests shows that each item prompts an average of four calls for further information. Engineers have commented that items in Technical Notes have provided background data or contacts which made a material contribution to the progress of various weapons programs. Engineering personnel continue to support the new publication by submitting items of widespread interest and by reporting, in addition to their successes, their failures or negative results in testing, research, or development.

SUMMARY

The publication of a weekly technical information bulletin has proved to be useful in integrating various aspects of a nuclear research and development program. The publishing of technical news items accompanied by schematics and photographs has minimized the possibility of parallel development efforts and has maintained an awareness by research and development personnel of their mutual progress.

Whatever status Technical Notes may have obtained in the nuclear research and development effort at Sandia Corporation has been by its *utility* to working scientists, by its immediacy, its delineation of problems, and its suggested solutions to problems.

In addition, the status of Technical Notes has been established because the publication is exploring more intensively the origins of technical information, and broadening the apperception of hitherto unrecognized, yet meaningful sources of such information. Ω

About The Author . . .

WILLIAM H. PUDER, *staff member of Sandia Corporation, Albuquerque, is a former (1959-60) chairman of the Albuquerque Chapter of STWP. He served as chairman of the steering committee of the first Southwestern STWE Regional Workshop last year. A 1940 graduate of the University of Arizona, Mr. Puder has done graduate work at the University of Denver and has completed the Economic Management Course of the Industrial College of the Armed Forces. His technical articles have appeared in a number of national publications and newspapers.*

Building an Organization Style Manual for Technical Reports*

Ethaline Cortelyou

We can assume that an editor who must build a style manual for an organization is that organization's first professional editor—that any previous report editing was done by secretaries or by technical supervisors. Therefore it is likely that only spelling and punctuation were corrected so that the idea of any other type of editing—even grammar—must be sold to researcher-writers who will at first view such services with suspicion. In such a situation, an editor must move slowly, learning how to handle his report writers while he learns to handle the reports.

PLANNING THE STYLE MANUAL

A very important part of any editor's job is personnel relations—author-editor relations and, equally important, typist-editor relations. To establish good personnel relations, an editor must sell his coworkers on the value of his services—and, I am convinced editing is a service profession. A good style manual should be offered to both writers and typists as a tool designed to save them time and trouble.

It can be suggested that an already existing manual should be adopted, but a manual is a personal matter—or, perhaps, I should say, an organizational matter. No one manual can be expected to meet all the needs and preferences of any organization other than the one for which it was designed. In fact, it cannot be expected to satisfy everyone in the organization for which it was designed. The best that can be hoped for in any organization is a manual that, as our Quaker friends say, "is the consensus of the meeting."

For those of us who are working with organizations that have many government contracts, adopting an already published government manual is not the answer because our government has not accepted any one manual as the "Bible" for editors and writers—not even the *Government Printing Office Style Manual.* Unless all of an organization's contracts are with one and only one government agency, an editor will find himself editing according to several government style manuals with each report being edited according to the agency involved. The best any of us can hope for is to be able to schedule reports so that the number of different style manuals being used on any one day can be kept to a minimum. Reports of research done under contract for industrial organizations seldom present any great style problems.

However, a new editor should check a bit before he assumes that his organization has no style manual. For some unknown reason, a style manual seems to be the most elusive document an organization can conceive. Often the most effective way to smoke out a forgotten or unknown style manual is to announce the completion of a first draft of a new manual.

An editor will have collected a personal library in his profession, but he should persuade his management to collect and to keep up-to-date an even larger one for the use (education) of writers. Rowena Ferguson's list for the *"Editor's Bookshelf"* is a very useful bibliography of such basic books as dictionaries, grammars, and general books on writing.[1] Lists of more specialized books on preparing reports and papers on technical subjects can be obtained from books by such authors as Casey,[2] Singer,[3] Ulman,[4] Waldo,[5] and Weil.[6]

Editors will find that a surprisingly large number of their authors will borrow or leaf through books when they are easily available. Even when a man's only purpose in consulting a grammar or writing text is to "catch the editor," he will learn something in the process. Unfortunately, many researcher-writers are not sufficiently familiar with even a dictionary to realize that it includes rules for spelling and punctuation. Few are aware of the many good books that are available on how to write technical reports.

In addition, an editor about to start a style manual will want to collect as many style guides as possible from organizations similar to his own. Although it is

*Paper given before the Division of Chemical Literature of the American Chemical Society at Atlantic City, New Jersey, September 14, 1959.

often difficult to get copies of style manuals from other organizations, they sometimes can be borrowed for a month or two. Often a promise of a copy of your manual when it is completed will be effective, since most manuals undergo continuous evaluation and constant revision.

Copies of well-written reports and of reports with interesting formats should also be collected from various sources. A report format should be selected, and as many other details of style as possible should be decided. Once a decision is made (probably with the help of management, writers, and typists), it should be consistently followed for a fair trial period before changes are made. One of the most common criticisms of editors that I have heard from both writers and typists is that they make too many and too frequent format changes.

ISSUING THE STYLE MANUAL

I strongly recommend that the first edition of an organization style manual be issued in loose-leaf form to permit gradual preparation and revision of information as it is needed. Probably the second edition, even thought it is issued as a complete manual, should also be in the loose-leaf form. From my own experience with researcher-writers, I would advise issuing a style manual cover with the first material "published" to each person on the distribution list, but succeeding sections or chapters should be issued in bulk to clerical personnel who will be more likely than the writers to exhume individual copies and to insert any new or revised material in the binders. However, some tactful and efficient method should be set up to make sure the authors are at least aware that such material has been issued and is being inserted in their copies.

Incidentally, report writing is so unpopular with most research men that a report preparation manual should be separate from an organization or procedures manual. It is not sugar coating the pill to set up rules for writing reports in the same company and in the same "legalese" as the procedure for determining a discharged employee's pay for accumulated vacation time.

The style manual should employ the format and reproduction methods to be used in issuing reports. Then both the typist and author of a report can use the style manual to visualize finished copy. For instance, if facilities available for reproducing reports require preparation of a typed master, the master for the style manual should also be typed.

Once the format for the style manual has been decided upon, the next step, as in any writing, will be to outline the manual in as much detail as possible. Then a section sequence can be used to number the pages of each section as it is issued. With this pagination scheme, the various sections or chapters can be issued as they are needed without regard to the expected normal sequence in the finished manual. For example, the pages of Subsection C of Section IV may be numbered IV-C-1, IV-C-2, etc., and issued even though none of the numerically preceding sections have been issued. (Sectional numbering of pages, figures, equations, and tables is recommended for any document which will be written or revised in parts, especially when more than one author—or typist—is involved.)

Actually, the first material issued should probably be an introduction announcing that a style manual is being prepared and explaining why it is considered necessary; it could be written as the foreword to the manual. Authors should be especially assured that a style manual is intended to relieve some of the drudgery of writing and not to regiment their individual styles. It should be pointed out that, for instance, establishing a format for reports should save time by obviating petty decisions on such purely mechanical details as paragraph and section numbering and the layouts of tables and graphs. However, they must be informed that even the most arbitrary rule, once it is published, is mandatory until officially revised and is not a subject for bickering among author, typist, and editor. Having the expression of such an attitude signed by someone else in administration and not by the editor might be good politics.

The next material issued should be some helpful and noncontroversial material such as a list of editing symbols or a bibliography of texts on grammar or writing. Such a bibliography could be preceded by a paragraph explaining the need for complete information in each bibliographical listing. The bibliography must be carefully written so that the style-manual reader will be able to find any desired books, and also so that both the reader and the typist can use it as a guide for setting up report bibliographies. An editor must try to avoid giving his authors chances to point out that he did not follow his own rules.

Certainly a manual should contain some permissive or advisory sections specifically intended to help and to encourage each author to develop his own writing style. It should be pointed out that although there is no one correct style for writing good technical reports, there are certain customs and tenets of good taste to be followed.

A WELCOMED AID TO AUTHOR

Any material designed to ease the chore of writing will be welcomed by most authors. During the years that I taught report writing at Armour Research Foundation I developed for my classes a list of "Ten Steps to Easier Writing." When I found that the list was being borrowed and copied by men who were not taking the course, extra copies were made available, then an article[7] describing them was written, and finally they

were included in the Foundation's style manual. Any experienced writer or editor could draw up his own list, and most such lists would probably contain the same rules.

A portion to be issued early in the procedure should cover the preparation of figures, especially charts and graphs. Because there are so very few words on an

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Figure 1—Table of Contents, Armour Research Foundation Style Manual

illustration, errors and even minor discrepancies seem to be glaringly obvious.

Some other important material that should be among the first sections issued are as follows:

1. A list of the most commonly used technical words, especially compounded words involving hyphenation, and of the preferred spellings of words with more than one correct spelling.
2. A list of commonly used abbreviations.
3. Organization policy on type, frequency, responsibility, and review of reports and papers.
4. Some help on the preparation of tables.[8]

Since "imitation is the sincerest form of flattery," other editors and organizations are usually quite liberal about permitting an editor to copy material from their manuals. Of course, it is only common courtesy to give due credit to the source of unique material copied from such a manual. In addition, an editor must obtain specific, written permission to quote or to paraphrase copyrighted material regardless of how few copies of a manual are issued.

During the preliminary stages, an editor's problem will be to determine what material is most critically needed. Then his problem will become one of determining the "political wind" and issuing material with the proper frequency, that which will keep authors interested but not irritated. Finally, in the finishing stages, the editor's task becomes the tedious one of issuing material on points in the outline that have not been discussed and of tying all the separate parts together into one homogeneous manual.

The time required to issue the first edition of a manual depends on many factors such as (1) extent of coverage, (2) number of writers and typists preparing the copy, (3) amount of the material that can be copied, and (4) number and kinds of persons having power of approval. Items 2 and 4 are the most critical; it is sometimes said that the amount of work done by a committee is inversely proportional to the number of committee members. Probably one year would be a safe estimate

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12 Table with Subtitles
13 Tabulation of Text Material
14 Graph With Fine Grid Reproduced
15 Graph With Only Major Grids Indicated
16 Graph Set the Long Way of the Page
17 Graph With a Suppressed Zero
18 Photograph on Ad-Type Paper
19 Multilithed Illustration Reproduced from Half-Tone Plate Made of Photograph
20 Photograph on Ad-Type Paper Made from Copy Negative
21 List of References
22 Final Page of Table of Contents
23 List of Tables

Figure 1 — (Continued)

of the time required to issue a 40- to 50-page manual in loose-leaf form.

Once the first edition is finished, if not before, everyone will have ideas about revising it. However, revision of a first edition usually takes less time since it often consists largely of eliminating subjects considered superfluous because they can be found in commonly available references.

A study of manuals of other organizations will be useful in deciding what should be included in a style manual. Figure 1 is the table of contents of the Armour Research Foundation style manual, for example.

Although preparing and issuing a style manual is an arduous task, it is a rewarding one. A manual with many illustrations of the desired format for tables, text pages, illustrations, cover pages, and other report components will be most worthwhile. It is probably better to err on the side of too much material rather than too little in the first edition of a manual. (Confidentially, when one has written "the book" himself, it is a source of great satisfaction to be able to use it to achieve "product identity" of reports in dealing with argumentative authors and typists.) Ω

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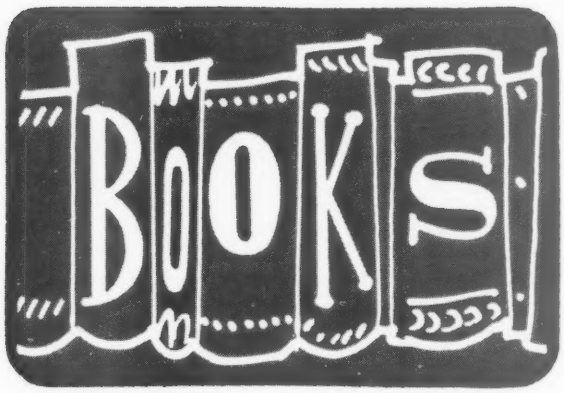
About the Author . . .

ETHALINE CORTELYOU *has been active in the field of technical documentation since 1942 when she voluntarily added to her duties as assistant to the chief analytical chemist of the Kingsbury Ordnance Plant in Indiana that of helping research men write reports. She has been an editor, writer, and literature scientist on the Manhattan project, at the Argonne National Laboratory, and at Armour Research Foundation in Chicago. Mrs. Cortelyou is now Chief Technical Editor of Aeroprojects Incorporated, an ultrasonics research and development company of West Chester, Pennslyvania.*

She undertook her undergraduate work in chemistry at Alfred University, graduate work in journalism at the State University of Iowa, and graduate work in chemistry and journalism at Northwestern University.

Mrs. Cortelyou taught chemistry at the University of Tennessee, Alfred University, William Penn College, and Mundelein College. She is the author of fifty or more publications on various aspects of technical documentation, career counselling, and chemical education.

Mrs. Cortelyou is president of Sigma Delta Epsilon and treasurer of the American Council on Women in Science. She has also been active in the Society of Technical Writers and Publishers, American Chemical Society, American Documentation Institute, and American Association for the Advancement of Science.



TECHNICAL WRITING TECHNIQUES FOR ENGINEERS. Joseph Racker. 234 pages. Englewood Cliffs, New Jersey: Prentice-Hall, Inc. (1960) $6.95.

Joe Racker has written a useful book about writing for engineers. He feels, and I agree with him, that engineers are not poor writers although engineering writing on engineering topics often assumes . . . "anything that is clear to them is also clear to others." There are five chapters in this book. Chapter 1 is a short introduction. Chapter 2 has an excellent discussion of the five levels of technical writing from the operator's or nontechnical level through the advanced engineer's or scientific level; each of these degrees of complexity is explained in detail with examples and illustrations. Chapter 3 discusses the use of words, symbols, and abbreviations. Chapter 4 covers the use of illustrations, and while most of the information applies only to handbooks, the methods for integrating artwork and photographs with the text are well covered and explained in detail. The last chapter discusses some of the important steps in manuscript preparation and, again, most of this is directed toward handbooks. There are eight glossaries, covering terms used in electronics and related fields, which make up the last 106 pages.

Chapter 2 of this book appeared as a condensation in *IRE Transactions* EWS in January 1959. That journal, in its January 1961 issue, reviewed this volume by saying, "The main feature of this book is its rules and formulas for shaping a manuscript for the intended segment of the engineering profession. For this specific purpose it should serve very well." I agree.

Allan Lytel

EXPERIMENTS IN ELECTRONICS. W. H. Evans. 374 pages. Englewood Cliffs, New Jersey: Prentice-Hall, Inc. (1959). $9.00.

The primary value of this book lies in its application to laboratory work. Classified in logical fashion, the experiments are broken down into consecutive steps for correct application. The book is divided into 50 experiments, with each experiment consisting of divisions titled Purpose, Information, Preliminary, Performance, Calculations and Conclusions, References, and Materials Required.

Experiments included in the volume deal with cathode-ray oscillographs, vacuum-tube characteristics, types of amplifiers, oscillators, demodulation of amplitude-modulated and frequency-modulated waves, circuits, transistors, and other related subjects. The book is completely up to date on the application of transistor circuits.

The book could have been improved by grouping related material. For instance, oscillators are covered in different sections rather than as a single group. The Table of Contents could have been more detailed, but it is hard to integrate a book of experiments into a standard, ideal format for reader reference.

This book should prove, however, very informative and useful to any aspiring electrical engineering student in laboratory work.

Anne L. Gregory

BASIC ELECTRICAL MEASUREMENTS. Melville B. Stout. 560 pages. Englewood Cliffs, New Jersey: Prentice-Hall, Inc. (1960). $8.75.

This book is a carefully written, easily understood description of all of the fundamentals necessary to make electrical measurements. Professor Stout (Electrical Engineering, University of Michigan) has included a history of the development of electrical units, an excellent review of statistical methods used to treat experimental data, and a brief chapter on some short cuts in making laboratory computations. All these are supplementary to the main theme of the text, which is an exposition of the techniques and equipment used in making various types of electrical measurements. These techniques are clearly explained and well illustrated with examples but they are directed at the engineer or, more precisely, the engineering student, for the book is an electrical engineering textbook.

The value of this book to the technical writer is limited, unless he is specifically dealing with the specialized field of electrical measurements and is familiar with circuit diagrams and higher mathematics, especially vector analysis and calculus.

Bert Helfinstein

RIGHTS AND WRITERS. Harriet Pilpel and Theodora Zavin. 369 pages. New York: E. P. Dutton (1960). $7.50.

This book, subtitled *A Handbook of Literary and Entertainment Law,* is an expansion of material from *Publisher's Weekly* on the same topic. Harriet Pilpel's column "But Can You Do That?" has been converted into book form. There are three parts, divided into nine chapters, covering the legal aspects of writing and publishing, as well as the entertainment arts. The book is documented by actual case references and footnotes which provide a detailed listing of the source material.

Because this book covers a wide field of intellectual effort, it is not as effective for writers as *The Law of Literary Property* (Phillip Wittenberg, World Publishing, 1957).

Rights and Writers is not a legal textbook although it is written from the legal point of view. For the writer, editor, or publisher a more comprehensive book is *A Manual of Copyright Practices for Writers, Publishers and Agents* (Margaret Nicholson, Oxford University Press, New York, 1956).

Allan Lytel

OPTICS OF THE ELECTROMAGNETIC SPECTRUM. C. L. Andrews. 492 pages. Englewood Cliffs, New Jersey: Prentice-Hall, Inc. (1960). $12.00.

An integrated view of electronics and optics is presented in this book, which should be of great value to those engaged in both fields and particularly to those in the microwave area. With the formulas that it contains, this volume is valuable as a reference book for scientists, engineers, and students. Two appendixes are concerned exclusively with a differential equation of longitudinal waves with Fresnel and Bessel integrals.

The book has a logical and concise format of 19 chapters. Sections within each chapter are indexed properly in the front of the book for easy reference. After a historical introduction to electromagnetic waves and optics, the author covers wave propogation, superposition of waves, the velocity of light, diffraction, polarizations, and other topics related to this field.

In view of the rapdily expanding science of missiles and space, the book may prove to be of even greater value in the near future to all scientists and engineers engaged in that field.

Anne L. Gregory

HANDBOOK OF LAPLACE TRANSFORMATION. Floyd E. Nixon. 115 pages. Englewood Cliffs, New Jersey: Prentice-Hall, Inc. (1960). $4.50.

Intended as a reference for those using linear differential equations to describe engineering and physical problems, this handbook gives an excellent review of the Laplace transform method of solving these equations. It contains a table listing more than 200 Laplace transform pairs [F (s) and corresponding f (t)], reputedly the most extensive available today. Mr. Nixon, who is also author of *Principles of Automatic Controls*, succinctly discusses determinants, determinant manipulating techniques, and root-finding methods. He also provides an excellent, though brief, presentation of the Laplace transform, derives many important Laplace transform theorems, and gives detailed examples of problems solved by the Laplace transform method.

This book can be used as a home-study course for technical writers who have been exposed to calculus and differential equations and who would like to acquire a working knowledge of Laplace transforms.

Jack Munt

THYRATRONS. G. M. Swenne. 82 pages. New York: The MacMillan Company (1960).

This book presents the essential theory of operation and the practical applications of thyratrons, while avoiding mathematical details unnecessary for a general understanding of the subject. Although it is written primarily for the engineer and therefore tends to be somewhat technical, many portions of the book can be of more than general use to the conscientious technical writer.

In the chapter on physical principles, the author presents many facts that are useful in understanding not only thyratrons, but also vacuum tubes and transistors. The chapters on electrical characteristics and basic circuits are primarily for the engineer, but much useful information can be gleaned from them if the reader cares to take the time.

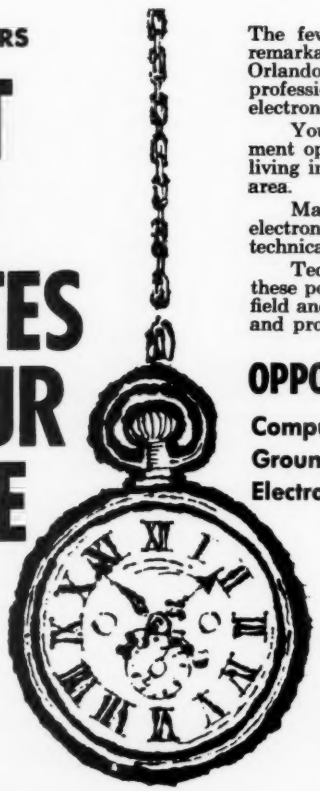
Of most use to the great majority of writers is the chapter on thyratron applications. Here such pertinent devices as relays, electronic timers, controlled rectifiers, ac control circuits, and dc-ac inverters are discussed.

Although the presentation of the material in this book is neither exciting nor unique, the writing is accurate and the subject matter is worth reading, especially for the technical writer who wants to stay abreast of the ever-changing and fascinating field of electronics.

Raymond W. Watts

TECHNICAL WRITERS

INVEST A FEW MINUTES IN YOUR FUTURE



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PRACTICAL TV TROUBLESHOOTING. Compiled by the Staff of Gernsback Library, Inc. 128 pages. New York: Gernsback Library, Inc. (1960). $2.35 (paperbound).

Compiled from articles which appeared in *Radio-Electronics* magazine, this book is intended to help television technicians find and eliminate quickly many perplexing service problems. These problems include intermittents, oscillator squegging, video IF oscillation, horizontal oscillator troubles, and horizontal jitter. Diagrams of the various circuits under discussion are presented.

One chapter in the book might be of use to the experienced home do-it-yourselfer, namely "Common TV Faults." This chapter includes over thirty photographs of picture tubes showing various troubles, along with text covering symptoms and diagnosis.

This book should enable service technicians to fix troublesome TV sets quickly and economically.

Richard A. Hanousek

COMPUTER LOGIC. Ivan Flores. 445 pages. Englewood Cliffs, New Jersey: Prentice-Hall, Inc. (1960). $12.00.

Many books about digital computers have been written from different viewpoints. This book, subtitled *The Functional Design of Digital Computers,* is just that — a complete treatment, in rather nontechnical language, of the block diagram flow in a modern digital computer. The book is part of the Prentice-Hall *Electrical Engineering Series* and is a valuable contribution for both the engineering student and serious layman.

There is no detailed description of individual circuits or their design, but rather there is a sound analysis of the computer by operational unit written and illustrated for a large class of computers. There is excellent coverage of control units, input-output, memory units, and arithmetic units.

Computer Logic can be compared to other computer books of recent vintage. *Basics of Digital Computers,* by John Murphy (John F. Rider, 1958), is more simple and practical. It contains many detailed drawings which, in themselves, are almost enough to carry the technician-reader through the book. On a higher level is *Arithmetic Operations in Digital Computers,* by R. K. Richards (Van Nostrand, 1955), which, while it is a good source book for logical operations, is somewhat outdated. *Computers: Their Operation and Applications,* by Edmund C. Berkeley and Lawrence Wainwright (Reinhold, 1956), is written in general terms and includes an elementary discussion of principles, a large amount of applications material, and a listing of references, manufacturers, and organizations in the computer field.

Of the computer books in the last few years, including the above as a small sample, *Computer Logic* is one of the most complete and well organized. It is useful to the writer or editor in this field both as a reference and an example.

Allan Lytel

PRACTICAL AUTO RADIO SERVICE AND INSTALLATION. Jack Greenfield. 160 pages. New York: Gernsback Library, Inc. (1960). $2.95 (paperbound).

The book is primarily a "how-to" for radio and TV repairmen who want to get into the automobile radio-repair business. Pointing out that the repair business can build up into a sales operation, the author tells the serviceman the equipment he will need for servicing and the kind of stock he will need for selling.

Very little theory and trouble shooting information is given in this book because the author has directed his material to the experienced radio and TV repairman. He stresses differences between the ordinary home variety of radio and TV sets and those found in automobiles. He even covers the possibility

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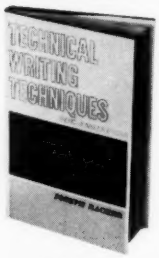
TECHNICAL WRITING TECHNIQUES FOR ENGINEERS

by Joseph Racker



This practical handbook shows how easy it is for the engineer to write technical information clearly and effectively. The first book of its kind that presents a specific set of rules any engineer can follow. Each rule stated in concise, easy-to-read language, then explained and illustrated by examples. Does not emphasize English composition or attempt to make a polished writer of the engineer. Instead, provides him with practical techniques needed for his everyday needs, speedily and skillfully.

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of car TV sets, especially the portable ones. Check-off lists are supplied for trouble analysis prior to bench servicing; the author's philosophy is to try to fix the radio without removing it from the cabinet (sometimes a major operation). The author presents information, amply illustrated, on installing and removing radios and rear-seat speakers, suppressing interference, and trouble shooting, as well as information on various types of tuners, power, FM, and auto-phonographs.

This book should enable a radio-TV repairman to make a sound judgment on the possibility of his entering the auto-repair business.

Richard A. Hanousek

FUN WITH ELECTRICITY. Tom Kennedy, Jr. 128 pages. New York: Gernsback Library, Inc. (1961). $2.65 (paperbound).

Do you feel that a knowledge of basic electrical theory and practice will increase your value as a technical writer or editor? If so, this knowledge can be obtained by reading and doing the experiments in this excellently written book by Tom Kennedy, Jr., former radio-TV editor of the New York Times and now advertising and publicity director of Fotel-Video Electronics Corporation.

The text of this volume, which is aimed at beginners in electricity, is easy to follow, and the diagrams are so well explained by numerous callouts that novices in the field will have little difficulty in doing the experiments. Parts list are provided to aid readers in obtaining the necessary tools and hardware.

An introductory chapter covers fundamental electric theory without complex formulas or engineering jargon. The use and care of tools and proper safety precautions are fully explained. The author mentions several valuable safety hints, e.g. "Do not wear a necktie when using an electric drill."

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This book is recommended not only for the use of technical writers and editors but also for a gift to a youngster who aspires to be a future Faraday, Edison, or Tesla.

Harry A. Squires

EDITORIAL NOTES

(Continued from Page 2)

more the profession itself is respected, the more the social structure is benefited; and the greater the stature of your professional society, the greater is the respect granted each member of the profession.

More deeply, however, once you commit yourself to the path of professionalism — once you freely take upon yourself the responsibilities of competence, currency, effectiveness, and dedication — you have undertaken an obligation you can shirk only at the peril of your own soul. If you freely undertake to be a responsible professional and then neglect any of the duties that entails, your conscience will never grant you peace. Thus, in the truest sense, the ultimate responsibility of the professional is to himself, and, if he meets that obligation, he will thereby meet all his other professional responsibilities. Ω

NEWS AND VIEWS

(Continued from Page 18)

communication in modern industry and government. STWP President Vernon Root will speak on "Your Future in Technical Writing." Other STWP members on the program include Ethaline Cortelyou, Herb Michaelson, Sterling Olmsted, and Bob Sencer.

At Colorado State, which holds its institute from July 10 to 14, the theme is "Communications in an Age of Science." The conference is directed by Dr. Herman M. Weisman. Among the STWP members on the faculty are H. B. Bachrach, Israel Light, and Bill Tracey.

AGRICULTURAL ENGINEERS? In a recent calendar of technical meetings in the Pittsburgh area, this program announcement appeared: A. Farmer: *Grazing Incidents in a Large Field.* On the calendar, only the abbreviation of the society sponsoring the meeting is given, and in this case the notation S.U.R.E. was given. To me this was a new abbreviation, so I called the Mellon Institute, where the calendar originates. To my surprise the organization (mirthful, of course) turned out to be the Society for Useless Research. Someone really has a sense of humor, eh? I was told that their next program announcement will appear in the April 1 issue of the sheet. Ω

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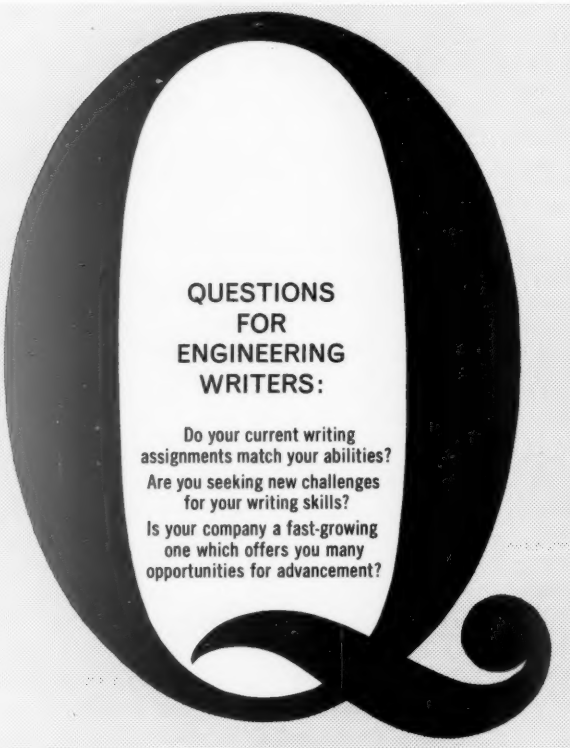
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LETTERS

(Continued from Page 3)

"Idea-getting" is one of the least understood mental processes, but it is a crucial function in a technical publicity program that requires a constant stream of articles. With a sound technical background and some experience, the technical writer is in an excellent position to "smoke out" possible stories from meager information by making "educated guesses." The technical writer is particularly well qualified to spot a possible story in what, to an ordinary publicist, appear to be unusual places. Hints for stories are often found in advertisements, incidental remarks in articles, construction reports, and similar sources outside the well-worn paths (such as suggestions by engineers, management, and the sales department). Someone without a technical background cannot relate the bits of information to his publicity problem.

Although they are potent sales tools, the technical publicity article must meet the needs of the editor and his readers. The technical training and experience of the technical writer give him insight into the thinking and reading habits of both editor and reader. To achieve this kind of empathy is a much longer and harder process for general writers working in the industrial area.

Lewis Reimer
Brooklyn, New York

JUST A LITTLE TEST

To Editor, *STWP Review*:

One day, an applicant for the position of accountant with a large firm sat down to an interview with the firm's personnel manager. Once the civilities were over, the personnel manager got down to business.

"Your resume looks good," he said, pointing to the sheet that lay on his desk, "but there are a few questions I would like to ask you first. Do you mind?"

"Not at all," said the accountant.

"Good. I've asked these same questions of other applicants for this job before, but for some reason they seem to object to them. I hope you're not that sensitive."

"I don't think so," the accountant said warily. "What are your questions?"

"Here's the first: Suppose, to take a hypothetical example, this firm had a gross income of two million dollars for the fiscal year and had expenses amounting to one and a half million. What would be its profit?"

The lines of caution in the accountant's forehead deepened. "Well," he said, "I think you'd find that the firm's profit was a half million dollars."

"You *think*," said the personnel manager with a sneer. "Don't you *know*?"

"Well, yes . . ." The accountant sank lower in his chair. "But there are other factors —"

"What other factors? Good God, man! An accountant's job is important. You have to come up with answers just like that!" And the personnel manager snapped his fingers explosively.

The accountant, finding himself driven past endurance, got up, reached for his hat, and said: "Look, mister. I am a CPA, a title which has some professional meaning, as you should know. I have had some eight years of accounting experience, as my resume indicates. I've done work for companies as big or bigger than yours. Furthermore, I resent being treated like a schoolboy by a man who would have trouble adding two and two without a machine." And he walked out in a fury.

Accountants may or may not have been abused in this way by personnel managers, but I have known technical writers who were as basely browbeaten through the inane institution known as "just a little test." The prelude is innocent enough: the job hunter is politely greeted, is given a set oration in which the company he proposes to enter is favorably compared to the Garden of Eden, and is then introduced to the Supervisor of Publications, the fellow who springs the trap. The job hunter may have a Ph. D. in engineering (summa cum laude) plus five years of design experience plus ten years of publications work. No matter. The supervisor subjects him to questions like:

1. "What is the formula for capacitive reactance?" (This one is a hardy perennial.)

2. "Identify this schematic." (It is a Colpitts oscillator, but the poor victim, who remembers the Colpitts as dimly as an old roue his first affair, cannot for the moment dig its name out of his memory. So he simply sits and blushes.)

3. "How does an ILS system work?" (The supervisor asks this question because only that day has he himself discovered what the letters ILS stand for.)

And so on. When the quiz is finished — assuming that the victim has kept his temper in check — the Ph. D. owned by the job hunter has passed by default to the supervisor. Or so it seems to the latter. But the test itself has accomplished nothing except to wear the patience of the job hunter thin, to succeed for a few moments in adding to the supervsior's self-esteem, and to deprive both of an hour or more of valuable time.

Then why are these tests given in the first place? I wish I knew. The depth of a man's fitness for the job can never be plumbed in this way; his resume is a far better measure. The interviewer usually has that resume at hand long before the applicant shows up. If he puts no faith in the applicant's claim for the experience the resume lists, he can check that claim by making a few telephone calls before the interview takes place. Or he can make this check after he has spoken to (*not* tested) the applicant. In any event, he holds all the trumps in this one-sided game, and there is no need whatever for him to shove a battery of questions under the nose of the innocent who wanders into his office.

Aside from this point of ethics, there is the faith of the technical writer in the dignity of his own profession. The idea of an accountant — in the manifestly apocryphal anecdote which heads this letter — being quizzed in that fashion is laughable because a man holding a CPA is generally accorded the honorable treatment a professional man deserves. Certainly he is accorded such treatment by his fellows. The technical writer, it seems, is in a different category. He is regarded, prima facie, as an inveterate dunce. His resume, if it is not pointedly ignored, is viewed with suspicion or contempt or both. He is denuded of all self-respect.

He would think better of himself and his prospective employers if he were free of these shoddy and puerile tests.

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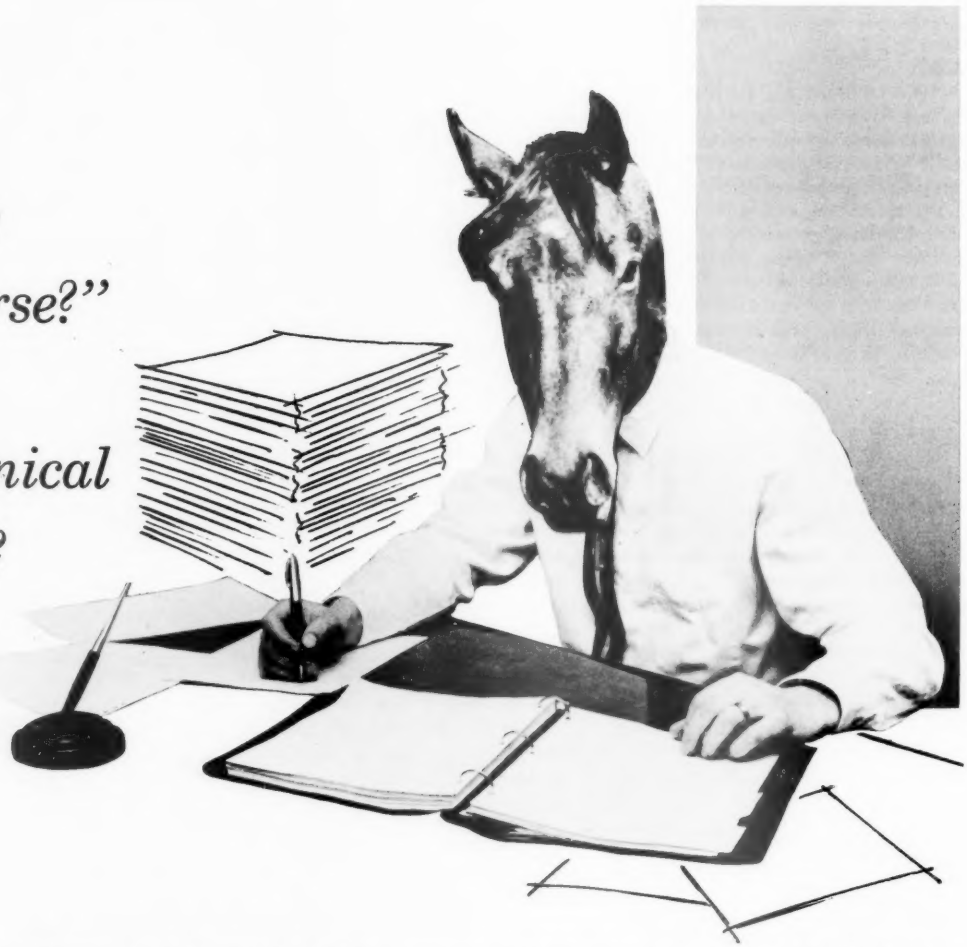

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